

THE MAGAZINE for TANDY Computer USERS

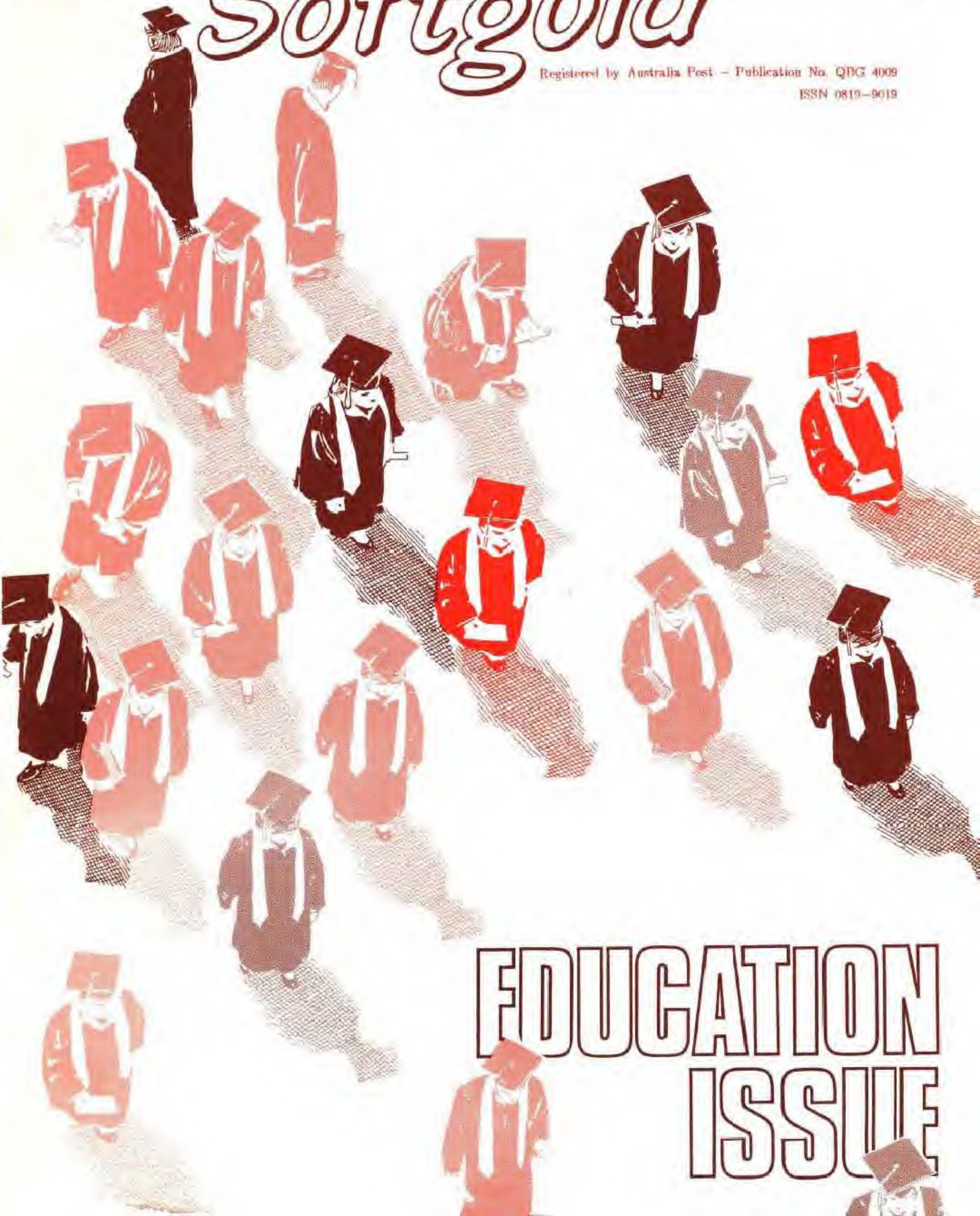
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# Softgold

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## EDUCATION ISSUE



POSTAGE AND PACKAGING  
EXTRA



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# Softgold



## ABOUT SOFTGOLD

This magazine is for computer users — especially Tandy, IBM and Viatel users.

The material is supplied by the users. It is volunteered and remains the property of the individual authors.

Authors can be contacted by placing your letter in a self addressed, stamped envelope care of GOLDSOFT.

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**Deadlines:** 7th of the preceding month.

## contents

CLUBROOM .....	4
THE OH! ZONE.....	6
LETTERS .....	7
MICO NEWS Jim Rogers.....	13
FOR THE GAMERS.....	28
PLAYER ONE Michael Horn .....	31
DEON'S DESK Deon George.....	45
1000's OF HINTS.....	45
REVIEW - KING'S QUEST.....	47
IN BRIEF .....	61
MARTHA'S TRADING POST .....	62

## features

BEGINNERS' BASIC Jim Rogers.....	30
BACK TO BACK UP Deon George.....	46

## programs

MC10 PEEK POKE Brian Glasheen.....	13
FIND THE TREASURE Bob Horne.....	15
PLANE GAME Bob Horne.....	17
1 x 1 = 3 Bob Horne.....	19
ALIENS, they're here! John Baker.....	
PRIME TIME Bob Horne.....	24
STRAIGHT LINE GRAPHS Mal McLaughlan.....	29
FOOTY JUMPERS David Dyson.....	36
WRITTEN NUMBERS WORKSHEET Bob Horne.....	38
BIKE SAFETY Nicholas Fuller.....	39



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# C L U B R O O M

## The T1400 LT

This month, Clubroom is being written on the (very) new T1400 LT.

I can't remember being so impressed with a computer for a long while.

This little computer appears to be 100% T1000 compatible, has 768K of RAM on board, has a full size 76 key keyboard, has a very legible backlit LCD screen and a host of other features including two 3.5" 720K drives.

The CPU is the NEC V-20, which is an 8088 equivalent, operating at 7.16Mhz.

But it is not the specifications that impress me!

What impresses me with the T1400 is its 'usability'. I can pick this machine up - it is about twice the size of the T200 - and I can take it just about anywhere!

And when I get there - or even on the way there, I have total access to the files/data I may have been working on in the office.

The biggest boon for me personally is that the computer will even run our "Gertie" program - the big number cruncher that operates our Bulletin Boards on Viatel - AND it runs Gertie TWICE as fast!!!

So now, I can go interstate and update Viatel automatically from wherever I am!

## The Leisure Expo (Qld)

In October we attended the Brisbane Leisure Expo which was held in the RNA grounds in Brisbane.

This was the first time the Expo has been held, but it looks set to become a regular event.

The Leisure Expo is different to the type of show we usually attend, in that the focus was on Leisure - not on computers.

Some of the other displays included a Gyrocopter; Exercise Weights - (with a video that had Karen & Meredith going!); custom made vehicles of many types; custom made beds; computer games machines and a Hovercraft! So it was a very interesting display.

We found ourselves not on the Tandy display for a change!

Instead we were on the Considering Computers stand, new advertisers of ours, and associates of the group who supply our new Public Access Videotex machines.

Compared to computer shows,

this show was not well attended - still, it was fun!!

The next show we do will be the Brisbane Computer Show, which is always well attended - hope to see some of you at that one!

## Posture and Computers

One of the companies on our stand at the recent Expo, was CHAIR"ING" Co. Pty Ltd. (Yes - their real name!)

They supply seating for computer users, and the line of chairs available really proves that for every computer user, there is a chair that he/she will feel comfortable with, and more importantly, that will assist the user's posture and reduce the possibility of contracting RSI.

Next month we will feature a selection of photos of these chairs.

Prices are about the same as for a good normal chair, so there really is no excuse for that sore back anymore!

## Blaxland Computer Services

Blaxland Computer Services have always been the place to shop in the Sydney area, for top quality back up and support.

This Christmas they have brought in a range of new software for the CoCo 3 and for the T 1000 (& IBM compatibles).

Items for the CoCo like CoCoMax 3, ColorMax 3, CoCo Graphics Designer, and for the T1000 like The Shareware Book, The LPC Series, In House Accounting, and Ability all make a phone call or visit to Blaxland well worth the effort.

Bruce and Roger are the real gentlemen of the industry too - so you have no worries when you deal with Blaxland Computer Supplies!

## Yes, You Can Charge it Monthly!

We've been asked so often for this service, we have decided to do it.

You have always been able to permanently book your CoCoOz and Softgold on Tape Disk on our monthly charging system, but from now on, we can also charge you monthly for your magazine - when it is purchased with CoCoOz or Softgold on Tape or Disk.

All you have to do is tell us your credit card number and we will ship your magazine & tape with all the subscriber magazines at the start of each

month until you tell us to stop!

We can't bill for magazines only unfortunately, because of the credit card system, which makes transactions below \$10 uneconomic.

So now, we can auto bill you not just for your favourite tape or disk - but also for your magazine - when purchased with that tape or disk!

## User of the Month



David Hill is a MC 10 user from Oakville, NSW. David is seen here with Jeff Ball in the Dark Room at school.

David recently submitted a very mysterious program for the MC 10 called "A Miss at Goal".

We'll have to wait until that one is printed in the magazine to see what that is all about!!

## More MS DOS!!!

As you can see, this magazine is starting to become more MS DOS oriented - not that this means a change of editorial policy, because we've always said that this is what we wanted for Softgold - its just that people are at last starting to submit articles and programs for that computer to us.

Softgold continues to be directed at new computer users, and we especially thank those of you who submitted work with the Christmas "newies" in mind!

Our family of Tandy, IBM and Viatel users is growing steadily and this is reflected in the steady rise of interest in Softgold magazine.

## Adelaide / Melbourne

Here I come to the "Gulp!" department!

I feel guilty about this, but unfortunately I've had to cancel plans to be in the southern states this month.



## WHAT PRICE QUALITY AND SAFETY?

By John Paxon

Probably every user group across Australia has its resident hardware "expert", or at least, someone assuming that title. Such a person usually does the upgrades, advises others on the ins and outs of this or that piece of electronic equipment, etc.

If you intend to have such a person do work for you in the near future, or have recently had some work done, then this article is for you. Read on.

Most people unfortunately seem to cast discretion to the wind when buying computer peripherals or services. The caution with which they would naturally approach buying a new car, for example, is suspended.

Take for instance the purchase of a new disk drive system. There are a number of variables associated with both the performance and safety of such a device, yet precious little consideration is given to them by the purchaser. My observations have been that often consideration of quality, reliability and safety pale into insignificance by comparison with the dollars and cents of the deal. What the "expert" is he talking about, I hear you say. I'll tell you.

Consider first the most important aspect of any electrically driven device - its safety. When you buy a toaster or a micro-wave oven, do you stop to consider whether it is electrically safe? Probably not, with good reason: the device has been tested by the electrical authorities and has thereby satisfied certain electrical and mechanical standards regarding sub assemblies, assembly, and earthing. Failure to adhere to these standards may result in an electrically unsafe condition, either immediately or in the future.

The problem with the local expert may be that he has less expertise than you think. He almost certainly knows more than you do, that's why you regard him as an expert. But expertise in the electrical industries is usually associated with some certification, either a full or restricted electrical licence. Does your expert have an electrical ticket of any kind? Perhaps not. Even the possession of an electrical ticket doesn't ensure that work is done to an adequate quality, if it's being done for example,

in a backyard shed on weekends, or under a house with less than adequate conditions, and is not subject to electrical inspection.

Let me give a couple of examples.

About two years ago I decided to buy a drive system (containing a Mitsubishi drive, as it turned out) from a local "expert". The absence of a case fastening screw, the misalignment of the remaining screws and the looseness of the second drive blanking plate prompted me to take a look inside. I was astounded to find that there was no fuse, that no insulation was present on the high voltage connections, and that the transformer secondary windings were pressed against the metal case, just begging for a short circuit! This eventually had been postponed for a while by the prudent wrapping of the transformer in masking tape!

Since this person is, I understand, an electrician, I found the poor quality of work even more astounding. I returned the unit to him for a refund. He didn't seem at all surprised at my reasons for the return. Perhaps he was used to such complaints. I should add, for the sake of a latter portion of this article, that the drive itself had a light coating of fine grit, and the power supply printed circuit board was a crude home made job, with ragged tracks and no sealing against corrosion.

Here's another. Recently I looked at the construction of another drive system, this time built by someone who I would regard as having much more knowledge. Though it was assembled much better, it still would not pass an electrical inspection by SEQEB (our electrical authority here in Brisbane). High voltage connections were not insulated, the wrong type of fuse holder was installed, and the method of earthing was totally incorrect. Here also the electrocution of the owner was a possibility.

The message I'm trying to get across here is that electrical safety is very important, and may not receive adequate emphasis from a backyard assembler, either through ignorance, laziness or indifference.

I made these comments to someone well up on the CoCo scene and was surprised to hear him say "Who cares about whether the drive system is assembled to

correct standards as long as it works and the price is right?" That's the bottom line or words to that effect. Such blindness is obviously well entrenched and is going to cost someone their life sooner or later.

You may wonder about the drive (or other mains powered device) which you purchased recently from a home based constructor. How can you tell if it's safe? I suggest a visit to your local electrical authority or it's equivalent in your state. Ask them to check it for electrical safety and get the results in writing. Then, if there is anything wrong, take the unit back to the "expert" and ask him to fix it.

However, if the drive has an electrical approval plate on it somewhere, it means that the manufacturer has been sufficiently responsible to have that model tested, and you may be confident of its safety, (though perhaps not of its quality).

Let's talk about quality. Again I'll address myself to drives, though these comments are broadly applicable to almost any electrical or electronic manufacturing process. An example: I know of a drive being assembled by a backyard expert which is being put out at an amazingly low figure. I gather that people are queuing up to buy these drive systems on the basis of the low price and the recommendation of a local who has some respect. In conversation with other real experts the same opinion was voiced each time: "a decent drive cannot be assembled for that price, even less can a warranty be offered". I checked the quality of the of the bare drive, and found that a quantity of that make of drive had recently been bought and subsequently returned by a large organisation with which I'm associated. Apparently these are rather unreliable.

The point I'm trying to put across here is that price is not the ultimate criterion of value in a computer peripheral. The real criterion is the product of reliability and safety. A drive which is low cost, but also has a lifetime of say two years before it cracks up, perhaps after a history of data errors, is not as good value as a drive which performs effortlessly for say 5 to 10 years.

My sincere apologies to all of you who have been effected by this change of plan.

Let's think about a date in March 1988 and do it then.

Software Downloads on Viatel

As we went to press, Ron Wright was pretty close to having the software prepared to allow CoCo users to download

software from Viatel.

This is the development we've all been waiting for!

We are looking forward to having this service online before Christmas - Murphy's Law permitting!

### Viatal Billing

We've had a number of people report instances of computer error in the Viatal billing system.

We are interested in hearing from anyone else who has had similar problems.

### Survey '88 - The Winner of the Competition!

Incredible number of entries to the Survey this year!

Thank you all for your help! I'll summarise the surveys next month!

However we do have a winner for the contest section.

Most people had suggestions as to what we should call our new software download service on Viatal.

Here are a few:

Softdown, Goldware, Golden Opportunities, Softlink, Goldloads, Golddump, Downware, Diamond Link, Quick Gold, Action, Supersoft, Gold Nuggets, Gold Mine, CoCoSoft, Viasoft, Goldtel, Solid Gold, Com Soft, and T(Candy) Bar.

There were heaps more, but after due consideration, the judges have decided to award the prize of 10 boxes of double density diskettes to Michael Monck for "SoftLink".

Look for this name - and more importantly, software downloads for your Tandy or IBM computer - on mode 6423 on Viatal real soon!

(Downloads for Commodore computers will be provided soon by Commodore Connection on Viatal 6420!)

Oh, and congrats to Michael!

### Golddisks 1 - 3

Deon has been typing his fingers to the bone to get Golddisks 3 and 4 ready for Christmas!

But finally they are here. Each disk contains up to 15 programs from previous Softgold magazines for the T 1000 or IBM.

### Contests

I think this happened last year!

What with computer shows, two extra magazines to get done before Christmas, and a host of other work, we feel that it is only right to extend the various contests that were to have closed in November until 7th February next year.

This will give you all a bit more time to get some of those typing fingers into gear too!

If you have an idea for the Bi-Centennial program, but would like someone else to help you,

let us know and we'll put you in touch with a like minded person!

### Users Group News

Firstly, on behalf of us all, but especially the users of Melbourne, we send our condolences to Joy Wallace, our former contact for the Melbourne Colour Computer Club.

Joy's husband passed away recently.

Les Leishman will be taking over from Joy as contact for the time being.

His phone number is 03 484 0822.

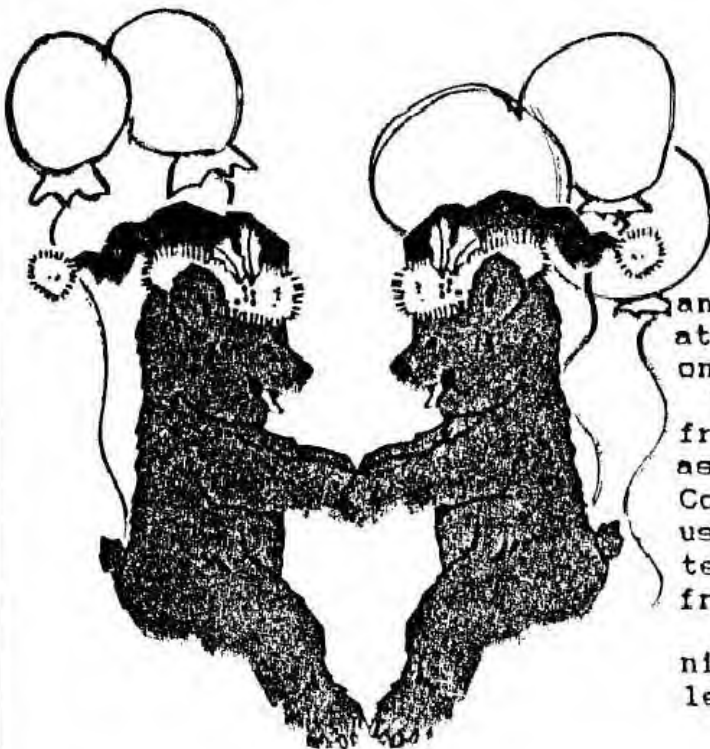
Rosemary Litzow is starting a group at Cannon Hill in Brisbane.

Rosemary's phone number is 07 395 0863.

Anyone in the area who needs help or would like to attend the group, please contact her.

We heard from our friend Peter Von Houts at Violet Town recently, and he tells me there is a group starting in the area - probably based at Benalla. Call Tandy at Benalla for more details - their phone number is 057 62 4155.

On a personal note, Peter and his wife Judy, are expecting their second child in a few months - we look forward to a photo in due course!!



## Christmas Party

Don't forget!!

The Christmas Bash on the 12th and 13th December on the beach at Southport is definitely still on!!

There will be Viatal users from all over the east coast - as well as a number of Tandy Computer users! And we will be using a Cellular Phone Viatal terminal to update Viatal LIVE from the Beach all night!

Yes - the party is an all night party - don't expect to leave before 10am!!



Our thanks to the groups who continue to send newsletters.

For space reasons, I won't summarize these this month, but be it made known that groups like the OS-9 Users' Group, AMUG, Port Noarlunga, La Trobe and Peninsular Users' Groups are producing these days, excellent quality newsletters! Each one is worth investing in!

#### Education & This Issue.

The days when people write programs to do a particular task BECAUSE THEY HAVE TO, are fast passing.

Nowhere is this more evident than in the Education arena.

Which is not to say that people will not continue to write programs for all sorts of purposes - because professional programmers can never hope to keep up with individual needs.

In education, the CoCo 3 has been passed by as an education tool, in all but the most sophisticated schools, and the move is away from the Apples to the IBM's and clones.

But even here the move is to the use of pre-written programs

rather than the development of programs to do tasks perceived necessary by the local body.

Nice it is to know then, that our programmers are still turning out education programs of the calibre to be found in this month's Softgold.

The point is this - you may have access to a very wide range of software that fills your current needs quite well - but home user or teacher - there will always be a time when you will need the computer to do something for you that you are unable to get from commercial software.

The answer lies in developing and maintaining an interest in programming.

If you own a TI1000, Basic is a good start, but Pascal is the language more commonly used.

We are very proud of the efforts shown in this magazine this month.

A special thanks goes to Bob Horne who continues to inspire us all with his quality work.

#### Welcome to the New Advertisers

I'm often reminded that one of the reasons people purchase our magazines is to see the ads.

This seems at first to fly in the face of the reason we watch TV - but then again, our

magazine is no TV station!

The CoCo is such a "closed shop" computer that it has always been difficult convincing advertisers that the magazine was the place to show off their wares.

But in today's age of the compatible computer, all that is slowly changing and advertisers are discovering the strength in the Tandy market - the one we address of course!

So we welcome two new advertisers to these pages this month, and we ask that our readers PLEASE mention us when you are talking to them!

#### The Tandy Store Award

The Tandy Store Award this month goes to Gwyn Morgan at Ringwood.

Unfortunately for our users in that area, Gwyn is leaving Tandy, but we couldn't let him go without thanking him once more for the great support he has been to the Tandy users in that area.

Gwyn is having a month or so off, before he decides what he will do next - something a lot of Tandy managers seem to do when the leave - I wonder why!!



## Professionally built hardware — at a fair price!

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# THE OH! ZONE

by Alex and Deon

All your computer  
hassles answered!!!

Dear Deon,  
Enclosed you will find the Latrobe Valley Bulletin. I hope you enjoy the reading. The three groups, namely the Moe, Morwell and Traralgon User Groups, all pitch in to produce this newsletter. The way we do it is to give every one a go. That is, one town produces a newsletter every three months. This month, (August) Traralgon had the pleasure in producing the newsletter.

While I have your attention, would it be possible to publish a list of well known IBM compatible boards that are known to run with little (if not any) trouble on the Tandy 1000?

I know that the long boards

are physically impossible to fit in. A lot of the shorter boards fit, eg, HardCard, RS232, and Clock and Calendar cards.

A list of these boards and maybe their suppliers, and a short description would be (I'm sure) greatly appreciated by all T1000 owners. At the moment I notice a great majority of the ads in your magazines are CoCo related. This was great when I owned a number of CoCo2s and a CoCo3, but now I own a T1000.

Until next time I bid you farewell.

Happy Computing  
Leigh Daws

Dear Leigh,

I seem to be confused. I also own a Tandy 1000, and, like you wanted to expand. Knowing the fact that the Tandy 1000 is one of the best IBM compatibles, I just asked Tony Lloyd, (of GT Computing) in Melbourne for a memory board. He sent me one up. I had no trouble whatsoever fitting it in. Please tell me which boards you had difficulty fitting in.

As for your comment on Softgold and CoCo having more CoCo related than Tandy 1000 and IBM articles and ads I hope to fix that! I am here to receive any information ANYONE would care to send concerning the topic and hope to make SOFTGOLD at least 50% Tandy 1000 and IBM compatible.

So if you have some "home made" programs you would like to send in, or if any of your user group members would like to contribute, please feel free to do so.

Deon

Dear Deon

I own a Tandy 1000 Computer and Monochrome Monitor.

I have been anxious to obtain the listings for games and data bases for my computer and have checked all the 1987 issues of Australian Rainbow Magazine, CoCo Magazine and Softgold for this purpose.

The only programme which appears to have been published is in the January 1987 edition of Australian CoCo called Air Raid.

I should be please if you would advise whether there are any other publications containing listings suitable for the Tandy 1000 computer and if so, what those are - or alternatively whether you are able to advise where such listings may be obtained?

Yours faithfully  
G.W. Williams

Dear Mr Williams,

Unfortunately I haven't heard of any publication that has programs for the Tandy 1000 and IBM Compatibles. Your best bet is to look through old computer magazines or even buy a book of basic programs and converting

them over to work on the 1000. There shouldn't be too much worry because BASIC is a universal computer language. The only major thing to watch out for is the Peeks and Pokes.

But the best bet is to watch this magazine, this month and over the next few months, as we begin to expand our service to you.

Deon

Dear Deon

Hi my name is Peggy and I am having problems with my brand new Tandy 1000. I am having problems trying to get the modem working through Deskmate. I tried to hook up to Austpac, but I can't get the right settings and the modem isn't dialing the number.

I have the Tandy Internal Modem (Cat no:25-9402) and a 256K Tandy 1000 with 2 disk drives.

Could you help me please?  
Peggy Cradduck

Dear Peggy,

Great hearing from you!

The most important thing to know if you are going to use this modem with Deskmate, is to make sure the pins are set on COM1. If you are unsure, then pop along to your local Tandy shop and get them to check for you. I'm sure they wouldn't mind!

Then, start up Deskmate and highlight the TELECOM bar and press <ENTER>.

You will be confronted with a page of settings which may seem meaningless, but they are important!

On the first line of the settings page you are prompted if you are using an autodial modem or a manual dial modem.

Select YES by moving the cursor onto YES and press <ENTER>.

You will then be faced with a blank page with four options at the bottom. They only one you will need to set up is COMPUTER dialing (Option F2). Press F2.

Set the screen so it looks like this:

DELAY: 1 (F7) 1

SEND: ATDP (F3) ATDP

then press F12 (twice) you will return to the main set up menu.

Set the BAUD rate to either 300 or 1200 (depending on which number you dial with AUSTPAC)

Set Data word length to 8.

Parity=NONE

Number Stop Bits=1

XON/XOFF=ON

and the rest set to OFF.

when that is done press F5 to go into Terminal Mode and press F8 to dial the number.

The modem should then dial the number you put in and connect you! Good luck!

Deon



Dear Alex

I recently purchased one of your Best of #8 - 16K Games on tape. The results are ...

\* 50% of the games, my kids cannot get,

\* 25% they have trouble getting off tape,

\* 25% they can load and play.

Most of the games indicate an I/O error, which means a bad tape. My kids are sick and tired trying to get these games - what do you suggest?

Also on page 47 of the June 1987 Softgold issue, there is a graphics program called "Skull", for a 16K ECB (which my computer is) CoCo.

My daughter typed in the program - she got as far as line 163 which is about 75% of the program when she got an OM error (which means an Out of Memory error).

So she cleared memory and started again - still the same problem came up (on line 163).

Why is this so, when the computer has been suited to work on a 16K ECB CoCo?

James Peel

Morwell, VIC

James,

With the Best of #8 - 16K games, we suggest you do the following:

\* check tape connections

\* check volume - setting of 7 to 8 is good, as opposed to 5 - 6 that the Tandy manual states.

\* check that tape mechanics are clean - ie clean head, pinch roller (black roller on right of head), and erase head (left of head) have been cleaned with an alcohol (Tandy sell a liquid called "Professional Head Cleaner" - top stuff!) every 10 working hours.

\* (the following is an extremist idea ...) check the azimuth of the head to make sure it is at exactly 90 degrees level.

If trouble still persists and CoCo doesn't want to read the tape, then send the tape back with a note saying "Hey, my CoCo doesn't want to talk to my tape - please replace" as well as the symptoms.

When we receive such a tape a new tape is sent out and the offending tape checked.

Regarding "Skull" - the program should work perfectly! We have had programs thrice (three times) the length fit into a 16K ECB CoCo!

Before you type any program, make sure the following is done:

\* Turn off your CoCo, wait for 15 seconds and turn your CoCo on again.

\* Type PRINT MEM - you should get something around the area of 8848.

The first suggestion is the best way of clearing your CoCo's memory. Sure, there are other ways of clearing your CoCo memory, but this is the most effective.

To reduce "Skull" in length even more, delete (or leave out) the following lines: 0, 1, 2, 3, 4, 5, 6, 7, and 8 - these are either REMark lines or submission numbers, both of which you don't need in the running of the program.

Try that, and write me a letter to say how you went.

\*

Dear Alex

I have just typed in the "Nuthacker" program which I am finding very interesting. However I would like to ask some questions about it. In listing 4, is line 1020 correct as printed?

Also in listing 2, lines 1045 to 1400 are repeated.

I would find it helpful to have more instructions, but I presume the command words are in listing 2, line 24 - but they need disentangling!

In the September "Softgold", page 17, in connection with the letter from Kim Hassall, would it be worth repeating instructions on how to deal with I/O errors using the CCR81 tape recorder?

I have a small screw driver, and often I find it necessary to adjust the head, as tapes can vary considerably, and it does not take much to throw things out. I now use a disk drive, but still have some material on tape, and it is easy to make a small adjustment.

I think I made this suggestion on the bottom of my review form, but as I was writing anyway, thought I'd spell it out a little.

THE Rev. John A. Ford  
Junee, NSW

John,

G'day!

Yes, the REMark in line 1020 in listing 4 can be left out as well as everything after the REM. This is probably something

Peter tried but didn't like and settled for something better - it wasn't deleted when Pete finished debugging his program.

And yes, lines 1045 to 1400 are repeated, mainly because it was a paste-up error.

And (finally) yes, the instructions (or commands) are to be found in listing two somewhere ... you didn't think getting the commands for an adventure was that easy, did you?

Regarding "adjusting the azimuth of the head in your CCR-81 recorder" - if one could do a tutorial on exactly what to do, it'd be great for people such as James Peel (see above letter) and many others I know.

Gee, it'd be really appreciated if someone could write an article on such a subject, right John?

And no, repeating the other instructions on handling CCR-81 I/O errors aren't r-e-a-l-l-y necessary ...



Correspondence for  
THE OH ZONE should  
be addressed to  
either ALEX, CoCo  
problems, and DEON,  
T1000/IBM hassles.

Our address is:  
THE OH ZONE,  
PO Box 1742,  
Southport, Q,  
4215.



# LETTERS



Dear Graham,

I am one of those lucky fathers who bought a CoCo 3 and disk drive to give to his son on his seventh birthday.

My boy, Shane, really enjoys using his computer, the disk drive has helped enormously there. In fact, the first disk I purchased was "Best of CoCoOz #11" with Bob Horne's absorbing (for my son) "Chatwin Manor".

Another reason I bought the CoCo was so that I could get to use it. Our deal is, Shane uses the computer, and I learn about it and type in the programs.

Eventually I will get a monitor - the portable TV gets moved too much.

Being a new user of a computer, I have discovered there is a big difference between learning BASIC, and understanding a writer's program. I enjoy most, those programs that are well documented, and the writer clearly states what the program is doing, ie which lines perform a specific task, what the variables represent, clearly REMarked subroutines, etc.

I have found that without those comments some programs are difficult to follow.

I hope one day I will be able to contribute to your (great) magazine. Until then, I have a lot of learning, understanding and enjoying to do.

Perhaps you could coerce some of your more accomplished writers to turn their

submissions into mini-tutorials.

David Morton  
Condobolin NSW

David,

Thank you for your letter. It's nice to know that there are other users in Condo, besides Ross and Chris.

We are attempting to make the magazine much more of a teaching magazine than we've been able to do in the past.

Already a number of our authors present their programs the way you suggest - for which we thank them - and we hope their example will be followed by others in the future.

Graham

\*

Dear Graham,

After reading a back copy of a July 1986 Rainbow Magazine, I saw a program by Bob Ludlum called Music+.

I would like to have the updated version but do not want to buy a Rainbow on disk as I already have typed up many of the programs. Could you send me a printout of the updated version of MUSIC+, or alternatively, if you let me know the cost to tape onto a disk and post to me I could send a disk to you.

Marc Peake,  
Oaklands Pk. SA.

Marc,

The program you require is

unavailable from us, due to the expiry of our arrangement with Falsoft, Inc in the U.S.

However, I understand that Robbie Dalzell of the Noarlunga User Group has some second-hand copies of some Rainbow magazines available. He may be able to help you.

Graham

\*

Dear Graham,

I really enjoyed the conference. I am sure that all the work you, Karen, Alex and crew put into it really benefitted us all.

Hopefully next year Dad and I will make it up to the Gold Coast for CONF'88.

Thanks again for the tapes.

Odette Seccombe,  
Roseville NSW.

P.S. There were two Sydney people at Conf'87, Odette and I!

Compliments on a GREAT CONFERENCE - a credit to you all. Really enjoyed the talk on Viatel - all I've got to do now is save up enough money to upgrade my modem (after I get FORTH from John Redmond)

John's talk really was superb! But I don't need to tell you that.

Roger.

Roger and Odette,

Thank you for your encouragement.

It is true that John's work needs no introduction to anyone, nevertheless it's also true that it's nice to encourage people such as John from time to time.

We enjoyed your company too, we hope Odette doesn't get sick next year!

Graham

\*

Dear Graham,

Several weeks ago I sent you a letter asking several questions re. OS9 level 2.

Since then I have used a very rare procedure to answer several of those queries - I read the instruction book!! (Seriously though, I do have good reasons for having not seen these areas before - in true form, Tandy put some of the information in some VERY obscure places!!).

Anyway I now have the answers to all but the question re. reproducing sound through the OS9 system.



If possible could you refer that one to someone who can tell me? Thanks.

Now, to a couple of newies. I upgraded my CoCo 3 to 512K with the PJB upgrade from Paris Radio and with it received a disk of Public Domain programs.

Unfortunately, being Public Domain there are no instructions available and I have no idea what they do or how to use them. Can anybody help? The programs included are:

\* KMODE.BIN    \* KMODE.DOC  
\* MLGEN.BAS    \* MTADD.TXT  
\* CNFG43.BAS    \* MTERM3.BIN  
\* RO.SRC        \* CCRDISK.SRC  
\* RAND512K.DOC \* RANDSK.BIN  
\* RANDSK.DOC    \* RAMMER3.OS9  
\* RDISK.CC3     \* SPOOLER3.BAS  
\* SPOOLER3.BIN \* SPOOLER3.DOC  
\* EIGHT28.BAS

Barry Sidebottom  
Sunbury Vic.

Barry,

All the files above with the ".DOC" and ".TXT" extension are instructions files you can read by typing:

LIST <filename>.<ext>

.The only sound that Alex has found in OS9 level 2 so far is by typing 'DISPLAY 0?' which produces a short 'beep'.

Graham

\*

Dear Graham,

First of all I am looking for software that I can use to put borders all round a letterhead and save to disk or tape.

My computer is a CoCo 3.

Is there anything in the best of CoCoOZ #3 Utilities? I know you say that some programs do not work on the CoCo 3 so I will wait for answer.

Graham, when reading letters in the September edition of Softgold I read Barry Sidebottom from Sunbury Vic.

Well my answer to Barry is he should pack up shop and move to NSW or he should try going to some of the other computer stores and see what service you get from them.

Try buying a fuse.

I know that not all Tandy managers have 100% computer knowledge, but I think they all try to do their best, as for waiting for goods I waited for 5

months for my RGB colour monitor, but my Tandy Store lent me the one out of the showroom.

Anyhow my last advise is that if you find something that you can pass back regarding your equipment that will help others please do, you can also gain from somebody that has passed their knowledge back to their Tandy Store.

Arthur Williams  
Harrington NSW.

Arthur,

Harry Hoffmann has written a very nice little border program which which will be in an upcoming CoCo magazine.

The program prints a border on A4 paper, but one could modify the program for longer or shorter paper length. Also, you can design any pattern you like, by altering the CHR\$ values within the program.

Thank you too, for your comments re the Tandy stores. No-one is perfect but I am convinced that these people try their best to help.

Graham

\*

Dear Graham and Crew,

I just have to share this feeling of goodwill towards Tandy and their Maddington branch owner/ manager Pat Drenan.

My story:- For starters, I live in a quite isolated little bay, half way between Perth and Geraldton, Western Australia.

One of the drawbacks of this type of life is the lack of service backup to almost everything purchased from the city.

However, the recent service I received has altered my opinion.

What happened:- My CoCo 3 512K lost its ability to access OS9 Level 11. All ordinary programs seemed to work. A few MAYDAY panic calls to Pat resulted in the conviction that the HIGH RAM chips had failed.

Problem #1:- Solved when son-in-law, enroute from Geraldton to Perth, offered to drop my CoCo 3 into Pat on Thursday.

Problem #2:- Solved when Pat immediately posted me a replacement machine. Australia Post gets a pat on the back here: the replacement arrived here Friday (yes next day).

Truly this is excellent service from all concerned.

The big joke between son-in-law and Pat re. MY SEVERE, VIOLENT WITHDRAWAL SYMPTOMS re. not being able to have my daily fix could have expedited the replacement computer, but I prefer to think it due to Pat's attitude.

Backup/Service of this quality is very, very rare within Australia, and Backup/Service of this quality should be acknowledged.

Customer satisfaction = customer loyalty = a satisfied loyal customer is probably the best advertisement any Salesperson or any store can have.

Just thought I'd pass on this JEM performed by our PAT.

G.P. (Ringer) Lewis,  
Jurien. W.A.

P.S. You can include my Viatel Number in the "Some Tandy Users on Viatel" list. Who knows!! There are sure to be other isolated users over here who get stuck for a little encouragement.

Gordon,

Is Pat the only store manager Tandy have in Western Australia?  
Graham

\*

Dear Graham,

First subject:

I read in a letter in September's issue of Softgold Magazine that your correspondent Barry Sidebottom had lost his collection of Australian Rainbow Magazines. I don't know how far back his collection went but I may be able to help him.

I have a limited number of back issues retained from when I distributed the magazines in the Noarlunga area. If he cares to contact me, I would be happy to help him recoup some of his losses for cost of postage and packaging.

Second subject:

Further to the letter from Kim Hassall in the 'DR CoCo' section of the same magazine. I would like to add something to the very comprehensive answer given.

In future when copying programs from magazines it is good practice to omit any high speed POKES until the program has been fully entered and

debugged. Missing them out does not adversely affect the program. Once everything is working properly they can be added.

I usually mark the position where they appear with a hi-lite pen so as to be able to find them easily for re-entry.

Robbie Dalzell  
Port Noarlunga, SA

Robbie,

Thanks for that advice.

A comprehensive list of PEEKs and POKEs for the colour computers 1, 2 and 3 will appear in January 1988's Australian CoCo Magazine along with quite a quantity of other reference material.

Users who do not have ready access to information of this nature would be well-advised to make sure they obtain a copy of that magazine.

Graham

\*

Dear Graham,

I have just received my first copy of your magazine and would

like to enter the graphics competition shown on page 62. My computer is a CoCo 2 with cassette and a DMP-100 printer.

As I have no details about previous competitions, could you please send more information on how to enter, what to send you, etc.

Chris Rowe  
Mortlake, VIC

Chris,

When submitting any program to the magazine whether it be sent in on tape or disk, please save it three times and follow these three saves with a text file (if possible) which tells us about your program.

The graphics competition was going to end on the 7th of November 1987 but has been extended to the 7th of February.

All computer-created pictures - whether made on the Tandy 1000 or the CoCo are eligible, and as with the last graphics competition, the judges would give special consideration to animated scenes.

You send your submission to the submissions editor, Freepost

5, Southport, Queensland, 4215. Please note that mail to this address does not require a postage stamp and is to be used only for submissions.

Tapes and Disks sent by you will be returned after three months unless we need to keep them a little longer as reference material.

Graham

## LETTERS



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# MICO NEWS

Editor Jim Rogers

**I**N THE PAST two months, due to unforeseen circumstances, MICO has suffered, much to my own chagrin and disappointment but with this month's issue we are back on an

even keel and I hope we can now continue for many more months to come.

Even though, for a number of years now our old MC10 has been off the shelf, finished, dropped, redundified and replaced - no not replaced - by Tandy, it still continues on its way.

Although many ex-Mac Tenzers have upgraded to a bigger machine there are, it appears, the same number of, or more, learners coming on.

This stands to reason when you realise that the ex-Mac Tenzers sell their machines to help purchase the new one and automatically create a new user somewhere.

It seems that the little MC10 will not wear out. Even if the symbols are worn off the keys with the constant use.

In one way it is sad to see those experienced users leaving us for the higher grade machines as we have lost the benefit of their expertise as well as the benefit of their inventiveness which produced so many advances for the MC10 but at the same time that is what the MC10 was produced for. A learning machine.

So it is only natural that those users, boys and girls, should progress to something more sophisticated.

Ed's note

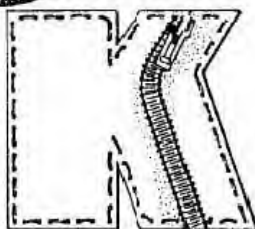
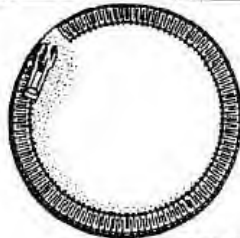
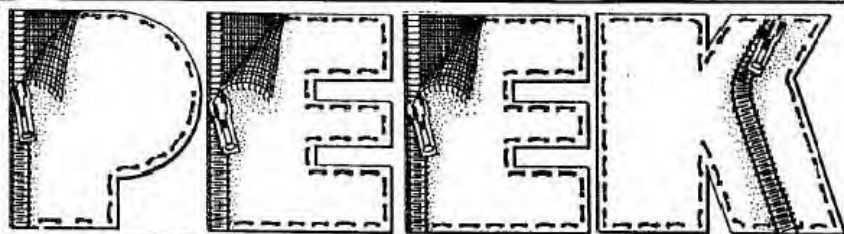
Also, many thanks to David Hill for the numerous programs he has submitted. I would like to add, David, by way of explanation on the difficulty we had over that tape you submitted and which I had to return to you as I was not able to get anything off it.

I eventually discovered that there were background voices and background music, and for some reason the MC 10 just would not pick it up.

I tried a variety of recorders to no avail and as a last resort I tried it out on a CoCo and up they came. Then by CSAving to a new tape I was able to transfer them to the to the MC 10.

However I/O errors in Grafix didn't allow me to take that one off. This could be a warning to everyone to make sure you use a clean tape when CSAving programs.

Jim



by

Brian

Glasheen

**B**rian says that this program may be a help to beginners. It lists all the POKES and PEEKS, tabulates the CHR\$ and then gives a cursor and screen poke and a hangup test. If you don't follow the directions given you will crash.

The Listing PEEKPOKE:

```
0 REM:PEEKPOKE BY BRIAN GLASHEEN
1 POKE17026,137
3 POKE49151,64
5 FORG=17050:NEXTG
140 CLS0
150 FORX=57344T057699
170 REM:ROM MAX. 65535
200 S=RND(255)
300 PRINT@PEEK(X),S
400 NEXTX
480 CLS0
```

```
485 PRINT"TOKEN SAMPLE"
490 FORX=57344T057388
500 D=PEEK(X)
530 PRINT"X:1400"
535 FORU=17050:NEXTU
537 FORU=1705:NEXTU
540 NEXTX
590 CLS0
595 PRINT@265,"ROM RND SOUND TEST"
600 FORX=57344T057499
625 R=RND(25)
650 SOUNDPEEK(X),R
700 NEXTX
790 CLS0
795 PRINT"CHR$ SAMPLE"
797 FORY=17030:NEXTY
800 FORX=57344T057499
810 PRINTTAB(15),CHR$(PEEK(X))
811 PRINTTAB(20),CHR$(PEEK(X))
812 PRINTTAB(10),CHR$(PEEK(X))
890 FORU=1705:NEXTU
900 NEXTX
980 PRINT"CHR$ TAB TEST"
981 PRINT"CURSER AND SCREEN POKE TEST"
999 POKE49151,64
1000 PRINT"PRINT MEM:--PRINTMEM
1050 FORU=1704000:NEXTU
1100 PRINT"HANG UP POKE TEST"
1110 PRINT"PRESS RESET IN 30 SEC
ONDS),THEN LIST"
1115 PRINT"NO, DON'T LIST:USE KEY
BOARD"
1117 PRINT"PRESS ENTER 7 TIMES 1
HEN PRESS ANY OL' KEY"
1120 FORJ=1709000:NEXTJ
1125 PRINT"WAIT A TIC"
1126 FORU=1702000:NEXTU
1200 POKE49151,32
1300 LIST
```

# Find

# the

# Treasure



by Bob Horne

CoCo 1, 2 and 3  
EDUCATION

THESE TWO PROGRAMS - full names "Coordinates for CoCo 1 and 2" AND "Coordinates for CoCo 3" are based on a program and article by Steve Blynn.

This was originally published in U.S. Rainbow, May, 1985. If you are interested in programming, these articles at times contain little gems of programs that are worthy of development.

In the accompanying article, Steve often gives hints on how the program can be altered to suit your own requirements.

Whereas Steve in his program presented his grid on the text screen, I have put the grid on the graphics screen.

The original program numbered the "Y" axis from the top of the screen to the bottom. (i.e. with "0" at the top and "7" at the bottom). This may be acceptable in computer terms but is not according to the usual practice where "0" is at the bottom and "7" at the top.

So, I have set out the grid numbering in the accepted way.

A short tutorial is presented in each program. As the program progresses, just follow the directions at the bottom of the screen. Oh, don't forget to revise Cardinal points and compass directions before presenting the program to the class.

I have found that most users can find the treasure in 3 to 5 guesses. You may wish therefore to change the number of guesses allowed. (presently set at 7).

To do this:- In the CoCo 1 and 2 version, alter the value of CT in line 420. Also change line 630 to suit.

In the CoCo 3 version the lines to alter are 450 and 690.

A further alteration in the CoCo 3 version if you don't like the "NO" off-centre when a wrong answer is given is to replace line 440 with ...

```
440 X=CC:HDRAW"S4C4BM"+STR$(CC*2
4+45)+", "+STR$(RR*16+24)+"U6DF4N
U5DBR6HU4ER2FD4GL2"
```

You can also add the triple speed-up POKE65497,0 before drawing the HLINE's in program lines 170, 240, 550, 580 and 590.

After the line has been drawn add POKE65496,0 to get back to normal speed.

## Listing One

```
1 REM*****
2 REM*      CO-ORDINATES      *
3 REM*      AND ORDERED PAIRS  *
4 REM*      BY BOB HORNE * FOR *
5 REM*      IPSWICH, Q * COCO1&2 *
6 REM*****
7 GOTO10
8 SAVE"309:3":END'2
9 GOTO20
10 PCLEAR8:GOTO9
11 IF PEEK(188)=14 THENPOKE248,5
12 POKE249,98:POKE250,28:POKE251,
13 175:POKE252,126:POKE253,173:POKE
14 254,165:POKE410,126:POKE411,0:PO
15 KE412,248:REM***DISABLE <BREAK>
16 KEY*****
17 20 CLEAR500:CLS
18 30 DIMCH$(58):FORX=0TO58:READCH$
19 (X):NEXTX
20 40 GOSUB590
21 50 GOSUB610
22 60 A=RND(-TIMER):PMODE4,1:COLORO
23 ,5:PCLS
24 70 A=RND(10)-1:B=RND(8)-1:CT=0:N
25 Q=NQ+1:IF DS=0 THEN GOSUB190 ELS
26 E FORZ=1TO4:PCOPY Z+4 TO Z:NEXTZ
27 80 GOTO290
28 89 REM***WORK OUT DIRECTION****
29 90 PR$="":DRAW"CO":LINE(103,171)
30 -(155,181),PSET,BF:IF CT=1 THEN
```



```

X1=10:Y1=180:C1=5:C$="CHANGE DIR
ACTION TO":GOSUB740
100 IF Y=B THEN130 ELSE IF Y>B T
HEN120 ELSEPR$=PR$+"NORTH"
110 GOTO130
120 PR$=PR$+"SOUTH"
130 IF X=A THEN160 ELSE IF X<A T
HEN150 ELSEPR$=PR$+"WEST"
140 GOTO160
150 PR$=PR$+"EAST"
160 X1=107:Y1=180:C1=5:C$=PR$:GO
SUB740:PLAY"O2L5T10AAAAFFAAAA"
170 DRAW"CO":LINE(0,150)-(190,17
0),PSET,BF
180 GOTO80
189 REM*****SCREEN SET UP*****
190 COLOR0:LINE(30,0)-(217,7),PS
ET,BF
200 R=2:X1=55:Y1=6:C1=5:C$="F I
ND THE TREASURE":GOS
UB740:X1=56:GOSUB740:X1=27:Y1=16
:C1=0:C$="0 1 2 3 4
5 6 7 8 9":GOSUB7
40:Y1=148:GOSUB740
210 FORZ=7TO0STEP-1:Y1=(7-Z)*16+
25:X1=15:C$=STR$(Z):GOSUB740:X1=
222:GOSUB740:NEXTZ
220 FORX=30TO219 STEP21:LINE(X,2
0)-(X,139),PSET:NEXTX
230 FORY=23TO150STEP16:LINE(27,Y
)-(221,Y),PSET:NEXTY
240 LINE(0,150)-(255,191),PSET,B
F
250 CIRCLE(233,171),20,5:PAINT(2
33,171),5,5
260 X1=231:Y1=158:C$="N":GOSUB74
0:Y1=189:C$="S":GOSUB740:X1=216:
Y1=174:C$="V E":GOSUB740
270 DRAW"COBM233,181U20NF3NG3D10
L10R20
280 DS=1:FORZ=1TO4:PCOPY Z TO Z+
4:NEXTZ:RETURN
289 REM***GET CO-ORDINATES*****
290 SCREEN1,1:R=3:X1=12:Y1=160:C
1=5:C$="TYPE FIRST CO-ORDINATE (
0 TO 9) ->":GOSUB740:IN$=INKEY$
300 IN$=INKEY$:IF IN$="" THEN300
310 IF ASC(IN$)<48 OR ASC(IN$)>5
7 THEN300
320 CC=VAL(IN$):X1=180:C$=IN$:GO
SUB740
330 X1=7:Y1=170:C$="TYPE SECOND
CO-ORDINATE (0 TO 7) ->":GOSUB74
0:IN$=INKEY$
340 IN$=INKEY$:IF IN$="" THEN340
350 IF ASC(IN$)<48 OR ASC(IN$)>5
7 THEN340
359 REM***EVALUATE ANSWER*****
360 RR=VAL(IN$):H1=RR:X1=180:C$=
IN$:GOSUB740
370 CT=CT+1:PX=30+21*CC:RR=RR-7:
RR=ABS(RR):PY=23+16*RR
380 IF CC=A AND H1=B THEN440
389 REM***ANSWER WAS WRONG*****
390 FORX=1TO8:CIRCLE(PX,PY),X,0:
NEXTX
400 PLAY"O2L50T5FFFFFFFJ1AAAAAAA
O2FFFFFFF"
410 X=CC:X1=PX-4:Y1=PY+2:C1=5:C$
="NO":GOSUB740
420 IF CT=7 THEN530

```

```

430 Y=H1:GOTO90
439 REM***ANSWER WAS RIGHT*****
440 FORZ=1TO20:CIRCLE(PX,PY),Z,0
:NEXTZ
450 FORZ=1TO15
460 X2=PX-12+RND(22):Y2=PY-12+RN
D(22)
470 FORZ2=1TO4:CIRCLE(X2,Y2),Z2,
5:NEXTZ2:CIRCLE(X2,Y2),5,0:NEXTZ
480 X1=PX-4:Y1=PY+2:C$="YES":FOR
Z=1TO10:C1=5:GOSUB740:PLAY"L50T1
004CDE":C1=0:GOSUB740:PLAY"CDE":
NEXTZ
490 PLAY"O3T2L10CCGGAAL5G"
500 DRAW"CO":LINE(0,150)-(210,18
5),PSET,BF
510 X1=5:Y1=175:C1=5:C$="CONRATU
LATIONS. YOU MADE IT IN"+STR$(CT
):IF CT=1 THEN C$=C$+" MOVE." EL
SE C$=C$+" MOVES."
520 GOSUB740:GOTO540
529 REM***THAT'S 7 GUESSES*****
530 DRAW"CO":LINE(0,150)-(210,19
1),PSET,BF:X1=5:Y1=165:C1=5:C$="
SORRY. THAT WAS 7 MOVES.":GOSUB7
40:Y1=180:C$="THE CORRECT ANSWER
WAS "+STR$(A)+" "+STR$(B):GOS
UB740
540 FORZ=1TO2000:NEXTZ:IF NQ=10
THENDRAW"CO":LINE(0,150)-(210,18
5),PSET,BF:X1=5:Y1=175:C1=5:R=4:
C$="NEXT PLAYER - <PRESS ENTER>."
:X1=6:GOSUB740 ELSE CT=0:GOTO70
550 PLAY"TS02L8CCGG03AAL4G"
559 REM***GET NEXT PLAYER*****
560 IN$=INKEY$
570 IF INKEY$<>CHR$(13) THEN570
580 NQ=0:CT=0:GOTO50
589 REM***TITLE SCREEN*****
590 CLS:PRINT@134,"THE PIRATES T
REASURE":PRINT@202,"BY BOB HORNE
":PRINT@264,"FROM AN IDEA OF":PR
INT@331,"STEVE BLYN"
600 FORZ=1TO2000:NEXTZ:RETURN
609 REM***INSTRUCTIONS*****
610 CLS:PRINT:PRINT"PIRAT
HAS BURIED HIS TREASURE SOM
EWHERE ON THIS ISLAND."
620 PRINT:PRINT"UNFORTUNATELY, O
N HIS MAP, HE HAS USED INVISIB
LE INK TO MARK THE SPOT WHERE T
HE TREASURE IS BURIED."
630 PRINT:PRINT"YOU WILL HAVE 7
CHANCES TO PICK THE CO-ORDINATES
OF THE SPOT WHERE HE HAS BUR
IED THE TREASURE."
640 PRINT@484,"PRESS enter TO CO
NTINUE.";
650 IF INKEY$<>CHR$(13) THEN650
660 CLS:PRINT" WHEN USING CO-O
RDINATES, THE HORIZONTAL NUMBER
IS ALWAYS CONSIDERED FIRST."
670 PRINT" THE VERTICAL NUMBER
IS CONSIDERED NEXT."
680 PRINT" THUS, CO-ORDINATES
ARE USUALLY ENTERED IN THI
S MANNER:-(9,3)"
690 PRINT" THIS PAIR OF NUMBER
S MEANS GOACROSS 9 AND UP 3."
700 PRINT" A PAIR OF NUMBERS L
IKE THIS IS ALSO KNOWN AS AN OR

```

```

DERED PAIR
710 PRINT@484,"PRESS enter TO CO
NTINUE.";
720 IF INKEY$<>CHR$(13) THEN720
730 CLS:PRINT@262,"JUST A MOMENT
PLEASE.":RETURN
739 REM*****DRAW MESSAGES*****
740 POKE65495,0:R=2:DRAW"C=C1:BN
"+STR$(X1)+" "+STR$(Y1)
750 FORI=1TO LEN(C$)
760 F=ASC(MID$(C$,I,1))-32
770 DRAWCH$(F)+"B;R=R;";
780 NEXTI:POKE65494,0:RETURN
789 REM*****CHARACTER DATA*****
790 DATABR2,BR2UBU2U2BRBD5,BU5ND
BR3BBD4,BRNLU3NLNURNURD3NLNRDB
R,BRUNLREHL2URNUR2BD4,BR3NUBL3UE
3UBL3DBD4BR3,BRNF2HEFGBD2REBD,
BU5BRRDGBD3BR2,BR2HU3EBRBD5,BRU
3HBD5BR2,BREUE3BD3NH3BDBR,BU3BR2
DNLNRDBDBR
800 DATABRUNRDRNUDGBU2BR2,BRU2R
2BD2,BRRULDBR2,BUBRRBU2NL3WR2BU2
LBD5BR3,BRHU3ERFD3GLBR2,R2U5NLD5
R
810 DATA NR3UEREU2LLGBD4BR3,BUFR
EUHNLEUL3BD5BR3,BR3U5D3L3UE2RBD5
,BUFREUHL2U2R3BD5,BUNUFREUHLGU2E
RBD5BR,BU4UR3D2G3BR3,BUNUFREUHLN
GHERFGBD3BR,BRRU3HLGDFREBD3,BR2
UBU2UBD4BR
820 DATABR2URD2GBU5URDLBD3BR,BR2
H2UE2BD5BR,BRBUNR2BU2R2BD3,BRE2U
H2BD5BR2,BR2UBUUREHL2BD5BR3,U2N
R3U2ERFD4
830 DATA U3NR2U2R2FGFDGL2BR3,BU
3ERFD3GLHDBR3,U5RF2DG2LBR3,NR3
U3NR2U2R3BD5,U3NR2U2R3BD5,BU3ER
BRBD3NLGLHDBR3,U3NU2R3NU2D3,BR
U5BD5BR2,BUFEU4NRL2BD5BR3,U5D2RE
2G2F2D,U5U3R3,U5F2NDE2D5,U5F3U3D5
840 DATABRHU3ERFD3GLBR2,U5R2FDGL
2BD2BR3,BU3ERFD3NHNFLGHDBR3,U5
R2FGL2F3,BUFEUHL2UERFD4
850 DATABRU5LR3BD5,U5R3U5BD5,BU
5D3FDRUEU3BD5,U5E2NUF2NU5,UE2H2
BR3DGF2D,BU5D2FRD2NLU2EU2BD5,NR3
UE3UL3BD5BR3

```

## Listing Two

```

1 REM*****
2 REM* CO-ORDINATES *
3 REM* AND ORDERED PAIRS *
4 REM* BY BOB HORNE * FOR *
5 REM* IPSWICH, Q * COCQ3 *
6 REM*****
7 GOTO10
8 SAVE"309A:3":END'2
10 CLEAR1000:CLS
20 ON BRK GOTO800
30 DIMA(14):A(1)=16:A(2)=11:A(3)
=32:A(4)=63:A(5)=27:A(6)=45:A(7)
=38:A(8)=45:A(12)=16:A(13)=52
40 GOSUB650
50 PALETTECMP:GOSUB670
60 A=RND(-TIMER)

```

```

70 HSCREEN2:FORZ=1TO13:PALETTEZ,
A(Z):NEXTZ:GOSUB190:CT=0:NQ=NQ+1
80 GOTO290
89 REM****WORK OUT DIRECTION****
90 HCOLOR4:HLIN(160,170)-(250,1
91),PSET,BF:HCOLOR3:HPRINT(0,22)
,"CHANGE DIRECTION TO ":PR$=""
100 IF Y=B THEN130 ELSE IF Y>B T
HEN120 ELSEPR$=PR$+"NORTH"
110 GOTO130
120 PR$=PR$+"SOUTH"
130 IF X=A THEN160 ELSE IF X<A T
HEN150 ELSEPR$=PR$+"WEST"
140 GOTO160
150 PR$=PR$+"EAST"
160 HPRINT(20,22),PR$:PLAY"02L50
T10AAFFFAAA"
170 HCOLOR4:HLIN(0,150)-(255,17
0),PSET,BF
180 GOTO80
189 REM*****SET UP SCREEN*****
190 HCOLOR4:HLIN(80,0)-(230,7),
PSET,BF
200 HCOLOR3:HPRINT(10,0),"FIND
THE TREASURE":HCOLOR4:PR$="" 0
1 2 3 4 5 6 7 8 9":HPRIN
T(4,1),PR$:HPRINT(4,17),PR$
210 FORZ=7TO0STEP-1:RR=(7-Z)*2+2
:HPRINT(3,RR),Z:HPRINT(34,RR),Z:
NEXTZ
220 FORX=51TO267 STEP24:HLIN(X,
18)-(X,134),PSET:NEXTX
230 FORY=20TO142STEP16:HLIN(48,
Y)-(270,Y),PSET:NEXTY
240 HCOLOR4:HLIN(0,150)-(320,19
1),PSET,BF:A=RND(10)-1:B=RND(8)-
1
250 HCIRCLE(283,171),22,13:HPAINT
(270,171),13,13
260 HCOLOR3:HPRINT(35,19),"N":HP
RINT(35,23),"S":HPRINT(33,21),"W
":HPRINT(37,21),"E"

```



```

270 HDRAW"C3BM283,181U20NF3NG3D1
0L10R20
280 RETURN
289 REM***GET CO-ORDINATES****
290 HCOLOR3:HPRINT(1,19),"TYPE F
IRST CO-ORDINATE 0 - 9 >":IN$=IN
KEY$
300 IN$=INKEY$:IF IN$="" THEN300
310 IF ASC(IN$)<48 OR ASC(IN$)>5
7 THEN300
320 C$=IN$:HPRINT(31,19),C$:CC=V
AL(C$)
330 HPRINT(0,20),"TYPE SECOND CO
-ORDINATE 0 - 7 >":IN$=INKEY$
340 IN$=INKEY$:IF IN$="" THEN340
350 IF ASC(IN$)<48 OR ASC(IN$)>5
7 THEN340
360 HPRINT(31,20),IN$:RR=VAL(IN$
):G1=CC:H1=RR
370 CT=CT+1:X1=51+24*CC:RR=RR-7:
RR=ABS(RR):Y1=20+16*RR
379 REM*****EVALUATE ANSWER*****
380 IF CC=A AND H1=B THEN470
389 REM*****ANSWER WAS WRONG*****
390 CO=5:FORZ=0TO8:HCOLOR CO:HLI
NE(X1-4-Z,Y1-2)-(X1+4+Z,Y1+2),PS
ET,B:CO=CO+1:IF CO=8 THEN CO=5:N
EXTZ ELSE NEXTZ
400 K=6:FORZ1=1TO10:FORZ=5TO7:PA
LETTEZ,A(K):FORZ2=1TO10:NEXTZ2:N
EXTZ:K=K-1:IF K<5 THEN K=7:NEXTZ
1 ELSE NEXTZ1
410 HCOLOR RND(4)+4:HLIN(X1-12,
Y1-8)-(X1+12,Y1+8),PSET,BF
420 PLAY"02L50T5FFFFFFFOIAAAAAAA
02FFFFFF"
430 FORZ=5TO7:PALETTEZ,A(Z):NEXT
Z
440 X=CC:CC=CC*3+6:RR=RR*2+2:HCO
LOR4:HPRINT(CC,RR),"NO"
450 IF CT=7 THEN580
460 Y=H1:GOTO90
469 REM*****ANSWER WAS RIGHT*****
470 HCIRCLE(X1,Y1),20,8:HPAINT(X
1,Y1),8,8
480 FORZ=1TO10
490 X2=X1-12+RND(22):Y2=Y1-12+RND
(22)
500 FORZ2=1TO4:HCIRCLE(X2,Y2),Z2
,13:HCIRCLE(X2,Y2),5,8:NEXTZ2,Z
510 FORZ=1TO10:FORZ1=1TO10:NEXTZ
1:FORZ2=1TO8:PALETTEZ2,RND(63):P
ALETTE13,RND(63):NEXTZ2,Z
520 FORZ=1TO4:PALETTEZ,A(Z):NEXT
Z:PALETTE13,A(13)
530 PALETTE8,A(8):CC=CC*3+5:RR=R
R*2+2:HCOLOR4:HPRINT(CC,RR),"YES
":FORZ=1TO20:PALETTE4,RND(63):FO
RZ1=1TO10:NEXTZ1,Z
540 PALETTE4,63:PLAY"03T2L10CCGG
AAL5G"
550 HCOLOR4:HLIN(0,150)-(260,18
5),PSET,BF
560 HCOLOR3:HPRINT(1,20),"CONRAT
ULATIONS. YOU MADE IT IN":HPRINT
(0,21),CT:HPRINT(3,21),"MOVE":IF
CT=1THEN HPRINT(7,21),"." ELSE
HPRINT(7,21),"."
570 GOTO590
579 REM*****THAT'S 7 GUESSES*****
580 HCOLOR4:HLIN(0,150)-(260,19

```

```

1),PSET,BF:HCOLOR3:HPRINT(0,19),
"SORRY, THAT WAS 7 MOVES.":HPRIN
T(0,20),"THE CORRECT ANSWER WAS"
:HPRINT(22,20),A:HPRINT(24,20),
",":HPRINT(24,20),B
590 FORZ=1TO2000:NEXTZ:IF NQ=10
THENHCOLOR4:HLIN(0,150)-(250,17
5),PSET,BF:HCOLOR3:HPRINT(0,23),
"NEXT PLAYER - press enter.":EL
SE CT=0:GOTO70
600 PLAY"T502L8CCGG03AAL4G"
609 REM*****GET NEXT PLAYER*****
610 IN$=INKEY$
620 IF INKEY$<>CHR$(13) THEN620
630 NQ=0:CT=0:HSCREEN0:PALETTE C
MP:GOTO50
639 REM*****TITLE SCREEN*****
640 PALETTE12,62:PALETTE13,1
650 PALETTE12,62:PALETTE13,1:VID
TH32:CLS:PRINT@134,"THE PIRATES
TREASURE":PRINT@202,"BY BOB HORN
E":PRINT@264,"FROM AN IDEA OF":P
RINT@331,"STEVE BLYN"
660 FORZ=1TO2000:NEXTZ:RETURN
669 REM*****INSTRUCTIONS*****
670 WIDTH40:ATTRO,1:CLS3:ATTR3,2
:FORZ=1TO5:PRINT:NEXTZ:ATTR2,4:P
RINT:LOCATE0,5:PRINT:PRINT"Peter
Pirate has buried his treasure
somewhere on this island."
680 ATTRO,6:PRINT:PRINT"Unfortun
ately, on his map, he has used
invisible ink to mark the spot w
here the treasure is buried."
690 PRINT:ATTRO,7:PRINT:PRINT"Yo
u will have 7 chances to pick th
e co-ordinates of the spot w
here he has buried the treasur
e.":PRINT
700 ATTR3,2:LOCATE0,20:PRINT:PRI
NT" Press ":ATTR2,1,B:P
RINT"ENTER":ATTR3,2:PRINT" to c
ontinue.":PRINTSTRING$(39,32):L
OCATE33,21:IN$=INKEY$
710 IF INKEY$<>CHR$(13) THEN710
720 ATTRO,1:CLS3:ATTR3,2:FORZ=1T
O4:PRINT:NEXTZ:ATTR2,4:PRINT:PRI
NT"When using co-ordinates, the
horizontal number is always cons
idered first.":PRINT
730 ATTRO,6:PRINT"The vertical n
umber is considered next.":PRINT
740 PRINT"Thus, co-ordinates are
usually entered in this manner
:- (9,3)":PRINT
750 ATTRO,7:PRINT:PRINT"This pai
r of numbers means go across 9
and up 3."
760 PRINT:PRINT"A pair of number
s like this is also known as
":ATTRO,5,B,U:PRINT"an ORDERED
pair":ATTRO,7:PRINTSTRING$(56,
32):770 ATTR3,2:LOCATE0,21:PRINT
:PRINT" Press ":ATTR2,1
,B:PRINT"ENTER":ATTR3,2:PRINT"
to continue.":PRINTSTRING$(39,32
):LOCATE33,22:IN$=INKEY$
780 IF INKEY$<>CHR$(13) THEN780
790 RETURN
800 ATTRO,1:PALETTECMP:END

```





# PLANE GAME

By Bob Horne

EDUCATION  
ANY MODEL COCO

**P**LANE GAME IS A VERY simple game which I wrote to demonstrate and teach various techniques in programming to the young members of a user-group which meets at my school twice a month.

The directions are very simple - just press the spacebar to fire.

The graphics screen used (128 points by 128 points) gives an interesting effect.

If you wish to change the number of turns you have, just change the "IF N<20" in line 520 to whatever you wish best keep it to a maximum of 99 though or you will have to alter the scoring routine (lines 470 - 510).

## The Listing:

```
1 REM*****
2 REM*      PLANE GAME      *
3 REM*      BY BOB HORNE    *
4 REM*****
5 GOTO20
6 SAVE"306D:3":END'2
19 REM***CREDIT SCREEN HERE***
20 POKE31000,0:CLS:FORA=1TO32:A
  $=A$+CHR$(127+16*RND(8)):NEXTA
30 A=1
40 PRINT@192,"          PLAN
  E          ";
50 PRINT@256,"    PRESS <ENTER>
  TO START.  ";
60 PRINT@160,MID$(A$,A,32-A)+MID
  $(A$,1,A);
70 PRINT@224,MID$(A$,A,32-A)+MID
  $(A$,1,A);
80 PRINT@288,MID$(A$,A,32-A)+MID
  $(A$,1,A);
90 A=A+1:IF A=31 THEN A=1
100 IF INKEY$<> CHR$(13) THEN60
197 REM***POKES FROM A LETTER***
    ****BY KEITH CAMPBELL****
    ***HOT COCO, OCT. 1983***
198 REM***SET VDG ETC. AND****
199 REM***DRAW SCENERY*****
200 PMODE1,1:PCLS:SCREEN1,0
210 POKE65473,0:POKE65474,0:POKE
  65476,0:REM***SET VDG CHIP****
220 POKE185,16:REMSET BASIC FLAG
230 POKE65314,128:REM***ACTS AS
  SCREEN COMMAND****FOR THE OTHER
  COLOR SET USE POKE65314,136****
240 CLEAR200,31000::DIMCH$(10),P
  L(3),PB(3):FORX=0TO9:READCH$(X):
  NEXTX
249 REM***DRAW AND GET PLANE***
250 DRAW"S4C3BM10,10NU2R7"
260 GET(0,4)-(20,14),PL
270 PCLS
279 REM***DRAW MOUNTAINS*****
280 DRAW"C3BM0,90R127H10L15H10L5
  H15G35L7H12M0,90"
290 PAINT(15,85),3,3:PAINT(85,85
  ),3,3
299 REM*****ROAD*****
```

```
300 DRAW"C4":LINE(30,92)-(0,127)
  ,PSET
310 DRAW"BM30,92L30"
320 PAINT(15,95),4,4
330 LINE(37,92)-(127,127),PSET
340 DRAW"BM37,92R92"
350 PAINT(55,95),4,4
359 REM***LINE CENTRE OF ROAD***
360 DRAW"C2BM34,94M40,102"
369 REM*****DRAW SUN*****
370 CIRCLE(6,6),6,2:PAINT(6,6),2
  ,2
379 REM*****SCORE BOX*****
380 DRAW"C2":LINE(25,102)-(75,12
  7),PSET,BF
390 DRAW"S4C2BM86,68R4L2U":N=0:D
  RAW"S16C3BM45,125"+CH$(0):SOUND1
  00,1
399 REM*****MAIN LOOP*****
400 Z=64:X=0:N=N+1:Y=16+RND(10)*
  2:DRAW"S4C3BM2,"+STR$(Y+4)+"NV2R
  7":ST=RND(2):IN$=INKEY$
410 IN$=INKEY$
420 X=X+ST:IF X=>107 THEN X=107:
  PUT(X,Y)-(X+20,Y+10),PB:GOTO520
430 PUT(X,Y)-(X+20,Y+10),PL
440 IF IN$<>CHR$(32) THEN410
449 REM*****GUN FIRED*****
450 PSET(88,Z,2):Z=Z-2:PRESET(88
  ,Z+2):IF Z=<4 THENZ=64:GOTO410
  ELSEIF PPOINT(86,Z-2)<>3 THEN 42
  0
459 REM*****HIT PLANE*****
460 FORT=1TO10:CIRCLE(86,Z-2),T,
  RND(3)+1:NEXTT:PLAY"O1V31T255L25
  5CDEGFABCADEFCBDFEGACAGBCE":FO
  RT=1TO10:CIRCLE(86,Z-2),T,1:NEXT
  T
469 REM*****NEW SCORE*****
470 DRAW"C2":LINE(25,102)-(75,12
  7),PSET,BF:SC=SC+1:SC$=STR$(SC):
  SC$=RIGHT$(SC$,LEN(SC$)-1):IF LE
  N(SC$)=1 THENX1=45 ELSE X1=35
480 DRAW"S16C4BM"+STR$(X1)+",125
  "
490 FORT=1TO LEN(SC$)
500 W$=MID$(SC$,T,1):W=ASC(W$)-4
  8:DRAWCH$(W)-"BR2"
510 NEXTT
520 FORT=1TO1000:NEXTT:IF N<20
  THEN SOUND100,1:GOTO400
539 REM*****GAME OVER*****
540 CLS:PRINT@171,"GAME OVER"
550 PRINT@265,"YOUR SCORE"SC
560 IF PEEK(31000)<SC THEN POKE3
  1000,SC:PRINT@388,"YOU HAVE THE
  HIGH SCORE." ELSE PRINT@393,"HIG
  H SCORE":PEEK(31000);
570 PRINT@482,"PRESS <ENTER> TO
  PLAY AGAIN":IN$=INKEY$
580 IN$=INKEY$:IF IN$<>CHR$(13)
  THEN580 ELSE200
589 REM*****DATA FOR NUMBERS****
590 DATA#RHUGERFD3GLBR2,R2U5NLD5
  R,NR3UEREU2L2GBD4BR3,BUFREUHNLEU
  L3BD5BR3,BR3U5D3L3UE2RBD5
600 DATA#FREUHL2U2R3BD5,BUNUFRE
  UHLGU2ERBD5BF,BU4UR3D2G3BR3,BUNU
  FREUHLNGHERFG8D3BR,BUFREU3HLGDFR
  EBD3
```

◆

# SUBMITTING YOUR WORK

Ah! So you've finally finished that program? And you say to yourself, "What a great program that would make for CoCo Magazine/Softgold Magazine!"

And so you wonder to yourself, "How am I going to send this program in to the magazine?". Some time goes by and you suddenly realise, "Hey, there's an article in this month's magazine about submitting your work. I'll read through that and maybe that'll help me."

So you rip the magazine out of your stack of other CoCo/Softgold magazines and read the article on how to submit your program.

It reads ...

"... we accept programs stored on both tape and disk ONLY along with a hard copy of the program(s) (optional only; we use it here as a reference to see what the program is/does) and suitable instructions.

## Saving to Tape

Each program would be best saved three times with the last save being in ASCII. The tapes we recommend you use are either a C30 or less (the reason for that is that tapes longer than C30 have a tendency to tear).

It'd be even better if you could include some instructions along with the program, either as a separate program or in the wordprocessors listed below.

## Saving to Disk

With disk, you'd be best to save it three times with the last save being in ASCII. Also, the extension name for the second and third copy should be different, so to distinguish the three copies. A simulation is given below.

'... I have just saved 3 copies of a program called "HORSE". The directory listing would be:

```
HORSE BAS 0 B 3
HORSE 1 0 B 3
HORSE 2 0 A 3'
```

Any instructions could be saved in the same system using either a program or in the wordprocessors listed below.

## Wordprocessors we use.

Here is a list from our most preferable wordprocessors to the drastic measure one could take to tell us how your program works.

1. Telewriter/Telepatch
2. Scripsit
3. PenPal
4. VIP Writer
5. Any form of data file.
6. Instructions written in a separate program."

"Oh wow!", you think to yourself as you read it with awe and astonishment. So you go about your busy little way saving your program and instructions to tape or disk. Then you say to yourself, "Where do I send it?"

You read the article on ...

"... any articles and programs should be sent to this address:

Submissions Editor,  
Freepost 5  
PO Box 1742,  
Southport, Qld, 4215

All mail to this address need not be paid for.

All tapes and disks received will be returned after three months in case we need to refer to something or re-print something."

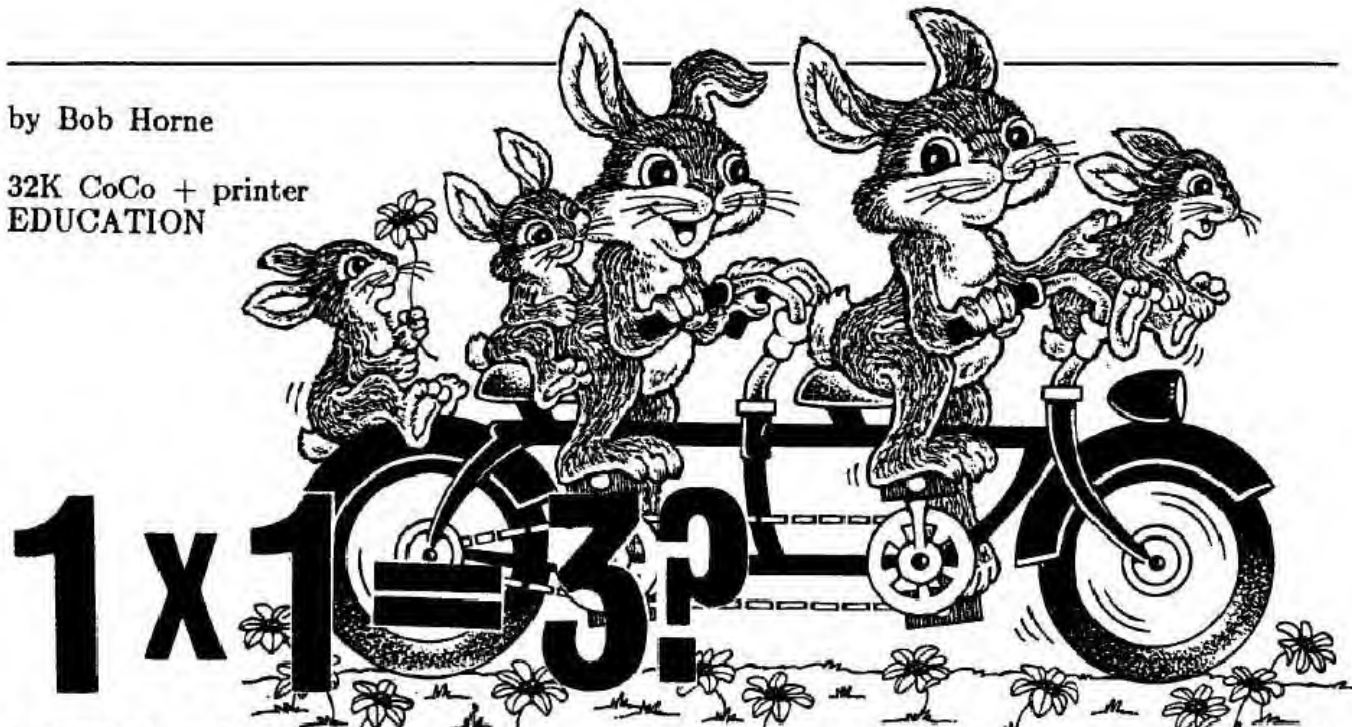
So place your tape/disk along with your hardcopy of the listing in a postpack (or suitable wrapping) and pop it in the mail.

All done!!



by Bob Horne

32K CoCo + printer  
EDUCATION



**T**ABLES14 WILL PRINT out a sheet of little problems on which your class can work.

You may choose a sheet of problems based on only one type (this is divided into various sub-types in most cases) or you may choose a mixture of all the types.

The printer codes are for a Tandy DMP-105.

I have documented them in the program with REM's for conversion to other printers.

## The Listing:

```
1 REM*****
2 REM*      TABLES14      *
3 REM*      BY BOB HORNE   *
4 REM*****
5 GOTO10
6 SAVE"309F:3":END'2
10 CLS:PRINT@260,"TABLES GENERAT
ION SHEET":DIMAN(3,30):FORZ=1TO1
000:NEXTZ:CLS:PRINT"WHICH GENERA
L TYPE WOULD YOU LIKE PRINTED
?"
20 PRINT"1)A+B=C+D","2)A*B=C*D",
"3)A*B=C+D","4)A-B=C+D","5)A-B=C
-D","6)7+7+7-7+7=?","7)(A*B)-C=D
","8)3,6,9,..."
30 PRINT"9)A*B/C=D","10)(A*B)+(
C*B)=(...*B)","11)A-(B+C)=D","12
)A-(B-C)=D","13)A*B+C-D=E","14)A
-(B*C)=D","15)ROMAN XXIX =... (T
O 99)","16)A MIXTURE."
40 PRINT"INPUT TYPE A NUMBER (1-
16) AND PRESS <ENTER>";AS:T=VAL
(AS):IF T<1 OR T>16 THENPRINT:PR
INT"SORRY. OUT OF RANGE.":FORZ=1
TO1000:NEXTZ:RUN
48 REM* PRINTER CODES *
```

```
49 REM* CHR$(27)CHR$(14) SET
DOUBLE WIDTH * CHR$(27)CHR$(15)
TURN OFF DOUBLE WIDTH * CHR$(15)
TURN ON UNDERLINE * CHR$(14)
TURN OFF UNDERLINE *
50 CLS:PRINT#-2,TAB(0);CHR$(27);
CHR$(14);"NAME";CHR$(27);CHR$(15
);CHR$(15);STRING$(50,32);CHR$(1
4);
60 SH=END(-TIMER):SH-TIMER:PRINT
#-2,"SHEET #";SH:PRINT#-2
70 PRINT#-2,TAB(10);CHR$(15);"LI
ST A";CHR$(14);TAB(39);CHR$(15);
"LIST B";CHR$(14);TAB(68);CHR$(1
5);"LIST C";CHR$(14):CLS
80 FORX=1TO24
88 REM* PRINTER CODES *
89 REM* CHR$(27)CHR$(16)CHR$(0)
CHR$(160) PRINTS 1/3 ACROSS PAGE
CHR$(27)CHR$(16)CHR$(1)CHR$(64)
PRINTS 2/3 ACROSS PAGE*****
90 FORY=1TO3:PRINT@270,(X-1)*3+Y
100 IF Y=1 THENPRINT#-2,TAB(0);"
"; ELSE IF Y=2 THENPRINT#-2,CHR$(
27);CHR$(16);CHR$(0);CHR$(160);
ELSEPRINT#-2,CHR$(27);CHR$(16);
CHR$(1);CHR$(64);
110 PRINT#-2,USING ##" ";X;
120 IF T=16 THEN U=RND(16) ELSE
U=T
130 ON U GOTO140,200,260,330,400
,460,470,550,560,620,660,710,760
,770,820
140 A=RND(17)+2:B=RND(17)+2:C=RN
D(17)+2:D=A+B-C:IF D<=0 THEN140
ELSEGOSUB1050
150 ON RND(4) GOTO160,170,180,19
0
160 PRINT#-2,"... + "B$" = "C$"
+ "D$";AN(Y,X)=A:GOTO1060
170 PRINT#-2,AS" + ... = "C$" +
"D$";AN(Y,X)=B:GOTO1060
180 PRINT#-2,AS" + "B$" = ... +
"D$";AN(Y,X)=C:GOTO1060
190 PRINT#-2,AS" + "B$" = "C$" +
...";AN(Y,X)=D:GOTO1060
```

```
200 A=RND(8)+2:B=RND(8)+2:C=RND(
8)+2:IF A=C OR A*B/C<INT(A*B/C)
OR A*B/C<=1 OR A*B/C>10 THEN200
210 D=A*B/C:GOSUB1050:ON RND(4)
GOTO220,230,240,250
220 PRINT#-2,"... X "B$" = "C$"
X "D$";AN(Y,X)=A:GOTO1060
230 PRINT#-2,AS" X ... = "C$" X
"D$";AN(Y,X)=B:GOTO1060
240 PRINT#-2,AS" X "B$" = ... X
"D$";AN(Y,X)=C:GOTO1060
250 PRINT#-2,AS" X "B$" = "C$" X
...";AN(Y,X)=D:GOTO1060
260 A=RND(8)+2:B=RND(8)+2:C=RND(
90+10)
270 IF A*B<=C THEN260 ELSE D=A*B
-C:GOSUB1050
280 ON RND(4) GOTO290,300,310,32
0
290 PRINT#-2,"... X "B$" = "C$"
+ "D$";AN(Y,X)=A:GOTO1060
300 PRINT#-2,AS" X ... = "C$" +
"D$";AN(Y,X)=B:GOTO1060
310 PRINT#-2,AS" X "B$" = ... +
"D$";AN(Y,X)=C:GOTO1060
320 PRINT#-2,AS" X "B$" = "C$" +
...";AN(Y,X)=D:GOTO1060
330 A=RND(18)+2:B=RND(18)+2:C=RN
D(18)+2
340 IF A<=B OR A-B-C<1 THEN330
350 D=A-B-C:GOSUB1050:ON RND(4)
GOTO360,370,380,390
360 PRINT#-2,"... - "B$" = "C$"
+ "D$";AN(Y,X)=A:GOTO1060
370 PRINT#-2,AS" - ... = "C$" +
"D$";AN(Y,X)=B:GOTO1060
380 PRINT#-2,AS" - "B$" = ... +
"D$";AN(Y,X)=C:GOTO1060
390 PRINT#-2,AS" - "B$" = "C$" +
...";AN(Y,X)=D:GOTO1060
400 A=RND(18)+2:B=RND(18)+2:C=RN
D(18)+2:IF A<=B OR A=C OR C-(A-B
)<1 THEN400
410 D=C-(A-B):GOSUB1050:ON RND(4
) GOTO420,430,440,450
420 PRINT#-2,"... - "B$" = "C$"
+ "D$";AN(Y,X)=A:GOTO1060
```

```

- "D$": AN(Y,X)=A: GOTO1060
430 PRINT#-2, A$ - ... = "C$" -
"D$": AN(Y,X)=B: GOTO1060
440 PRINT#-2, A$ - "B$" = ... -
"D$": AN(Y,X)=C: GOTO1060
450 PRINT#-2, A$ - "B$" = "C$" -
...: AN(Y,X)=D: GOTO1060
460 A=RND(8)+1: B=A: C=A: D=A: E=A: G
OSUB1050: PRINT#-2, A$ + "B$" + "
C$" - "D$" + "E$" = "...: AN(Y,X)=A*
3: GOTO1060
470 A=RND(8)+2: B=RND(8)+2: C=RND(
A): GOSUB1050: ON RND(7) GOTO480, 4
90, 500, 510, 520, 530, 540
480 PRINT#-2, ("A$" X "B$") - "C
$" = "...: AN(Y,X)=A+E-C: GOTO106
0
490 PRINT#-2, ("A$" X "B$") + "C
$" = "...: AN(Y,X)=A+E+C: GOTO106
0
500 PRINT#-2, ("A$" X ...) + "C$
" = "A*B+C": AN(Y,X)=B: GOTO1060
510 PRINT#-2, ("..." X "B$") + "C$
" = "A*B+C": AN(Y,X)=A: GOTO1060
520 PRINT#-2, ("A$" X ...) - "C$
" = "A*B-C": AN(Y,X)=B: GOTO1060
530 PRINT#-2, ("..." X "B$") - "C$
" = "A*B-C": AN(Y,X)=A: GOTO1060
540 D=A*B-C: D$=STR$(D): D$=RIGHT$
(D$, LEN(D$)-1): PRINT#-2, ("A$" X
"B$") - ... = "D$": AN(Y,X)=C: GO
TO1060
550 A=RND(8)+2: B=A*2: C=A*3: GOSUB
1050: PRINT#-2, A$, "B$", "C$", .
...: AN(Y,X)=A*4: GOTO1060
560 A=RND(8)+2: B=RND(6)+2: C=RND(
B)+2: IF A*B/C<2 OR A*B/C>9 OR A*
B/C<>INT(A*B/C) THEN560
570 GOSUB1050: ON RND(4) GOTO580,
590, 600, 610
580 PRINT#-2, A$ X "B$": GOSUB104
0: PRINT#-2, "C$" = "...: AN(Y,X
)=A*B/C: GOTO1060
590 PRINT#-2, A$ X "...: GOSUB10
40: PRINT#-2, "C$" = "A*B/C": AN(
Y,X)=B: GOTO1060
600 PRINT#-2, "... X "B$": GOSUB10
40: PRINT#-2, "C$" = "A*B/C": AN(
Y,X)=A: GOTO1060
610 PRINT#-2, A$ X "B$": GOSUB104
0: PRINT#-2, "... = "A*B/C": AN(
Y,X)=C: GOTO1060
620 A=RND(7)+2: B=RND(7)+2: C=RND(
7)+2: D=B: IF A<C THEN620
630 GOSUB1050: ON RND(2) GOTO640,
650
640 PRINT#-2, ("A$" X "B$") + ("C$
" X "D$") = ... X "D$": AN(Y,X)=A+C: G
OTO1060
650 PRINT#-2, ("A$" X "B$") - ("C$
" X "D$") = ... X "D$": AN(Y,X)=A-C: G
OTO1060
660 A=RND(10)+10: B=RND(7)+2: C=RND
(7)+2: IF B+C>A THEN660 ELSE D=A
-(B+C): GOSUB1050: ON RND(4) GOTO6
70, 680, 690, 700
670 PRINT#-2, "... - ("B$" + "C$")
= "D$": AN(Y,X)=A: GOTO1060
680 PRINT#-2, A$ - ("..." + "C$") =
"D$": AN(Y,X)=B: GOTO1060
690 PRINT#-2, A$ - ("B$" + ...) =

```



```

"D$": AN(Y,X)=C: GOTO1060
700 PRINT#-2, A$ - ("B$" + "C$")
= "...: AN(Y,X)=D: GOTO1060
710 A=RND(10)+10: B=RND(8)+2: C=RND
(8)+2: IF B-C<0 OR A-(B-C)<1 THEN
710 ELSE D=A-(B-C): GOSUB1050: ON
RND(4) GOTO720, 730, 740, 750
720 PRINT#-2, "... - ("B$" - "C$")
= "D$": AN(Y,X)=A: GOTO1060
730 PRINT#-2, A$ - ("B$" - "C$")
= "D$": AN(Y,X)=B: GOTO1060
740 PRINT#-2, A$ - ("B$" - ...)
= "D$": AN(Y,X)=C: GOTO1060
750 PRINT#-2, A$ - ("B$" - "C$")
= "...: AN(Y,X)=D: GOTO1060
760 A=RND(7)+2: B=RND(7)+2: C=RND(
7)+2: D=RND(7)+2: E=A*B+C-D: IF E<0
THEN760 ELSE GOSUB1050: PRINT#-2
, ("A$" X "B$") + "C$" - "D$" =
...: AN(Y,X)=E: GOTO1060
770 A=RND(8)+10: B=RND(8)+2: C=RND
(8)+2: IF A-(B+C)<0 THEN770 ELSE
D=A-(B+C): GOSUB1050: ON RND(4) G
OTO780, 790, 800, 810
780 PRINT#-2, "... - ("B$" X "C$")
= "D$": AN(Y,X)=A: GOTO1060
790 PRINT#-2, A$ - ("..." X "C$")
= "D$": AN(Y,X)=B: GOTO1060
800 PRINT#-2, A$ - ("B$" X ...)
= "D$": AN(Y,X)=C: GOTO1060
810 PRINT#-2, A$ - ("B$" X "C$")
= "...: AN(Y,X)=D: GOTO1060
820 A=RND(99): GOSUB1050: D$="": IF
LEN(A$)=1 THEN930
830 B$=LEFT$(A$, 1): B=VAL(B$): ON
B GOTO840, 850, 860, 870, 880, 890, 90
0, 910, 920
840 D$="X": GOTO930
850 D$="XX": GOTO930
860 D$="XXX": GOTO930
870 D$="XL": GOTO930
880 D$="L": GOTO930
890 D$="LX": GOTO930
900 D$="LXX": GOTO930
910 D$="LXXX": GOTO930
920 D$="XC"
930 C$=RIGHT$(A$, 1): C=VAL(C$): IF
C=0 THEN1030 ELSE ON C GOTO940,
950, 960, 970, 980, 990, 1000, 1010, 10
20
940 D$=D$+"I": GOTO1030

```

```

950 D$=D$+"II": GOTO1030
960 D$=D$+"III": GOTO1030
970 D$=D$+"IV": GOTO1030
980 D$=D$+"V": GOTO1030
990 D$=D$+"VI": GOTO1030
1000 D$=D$+"VII": GOTO1030
1010 D$=D$+"VIII": GOTO1030
1020 D$=D$+"IX"
1030 AN(Y,X)=A: PRINT#-2, "ROMAN "
CHR$(34) "D$" CHR$(34) "=" : GO
TO1060
1038 REM* PRINTER CODES FOR
DIVISION SIGN *
1039 REM* CHR$(18) SET GRAPHICS
MODE * CHR$(28) CHR$(2) CHR$(136)
REPEAT GRAPHIC CHARACTER 136 TWO
TIMES * CHR$(30) GO BACK TO
ORDINARY PRINTING *
1040 PRINT#-2, " ": CHR$(18); CHR$(
28); CHR$(2); CHR$(136); CHR$(28); C
HR$(2); CHR$(201); CHR$(28); CHR$(2
); CHR$(136); CHR$(30); : RETURN
1049 REM* CONVERT NUMBERS TO
STRINGS *
1050 A$=STR$(A): B$=STR$(B): C$=ST
R$(C): D$=STR$(D): E$=STR$(E): A$=R
IGHT$(A$, LEN(A$)-1): B$=RIGHT$(B
$, LEN(B$)-1): C$=RIGHT$(C$, LEN(C$
)-1): D$=RIGHT$(D$, LEN(D$)-1): E$=R
IGHT$(E$, LEN(E$)-1): RETURN
1060 NEXTI: FORZ=1TO2: PRINT#-2: NE
XTZ: NEXTX
1069 REM*** PRINT THE ANSWERS **
1070 CLS: PRINT#264, "PRINTING ANS
WERS"
1080 PRINT#-2, TAB(0); "ANSWERS SH
EET #"; SH
1090 PRINT#-2, TAB(10); CHR$(15); "
LIST A"; CHR$(14); TAB(39); CHR$(15
); "LIST B"; CHR$(14); TAB(68); CHR$
(15); "LIST C"; CHR$(14)
1100 FORX=1TO12
1110 PRINT#-2, TAB(0); "...: PRINT#
-2, USING"##"; X; : PRINT#-2, TAB(4);
"...: PRINT#-2, USING"####"; AN(1, X
); : PRINT#-2, TAB(14); "...: PRINT#-2,
USING"##"; X+12; : PRINT#-2, TAB(18
); "...: PRINT#-2, USING"####"; AN(1, X
+12);
1120 PRINT#-2, TAB(26); "...: PRINT#
-2, USING"##"; X; : PRINT#-2, TAB(30
); "...: PRINT#-2, USING"####"; AN(2, X
); : PRINT#-2, TAB(40); "...: PRINT#-2
, USING"##"; X+12; : PRINT#-2, TAB(4
4); "...: PRINT#-2, USING"####"; AN(2,
X+12);
1130 PRINT#-2, TAB(52); "...: PRINT#
-2, USING"##"; X; : PRINT#-2, TAB(56
); "...: PRINT#-2, USING"####"; AN(3,
X); : PRINT#-2, TAB(66); "...: PRINT#-
2, USING"##"; X+12; : PRINT#-2, TAB(
70); "...: PRINT#-2, USING"####"; AN(
3, X+12)
1140 NEXTX
1150 PRINT#-2
1160 CLS: PRINT: PRINT"RUN AGAIN (
Y/N)": A$=INKEY$
1170 A$=INKEY$: IF A$="Y" THEN RU
N ELSE IF A$<>"N" THEN1170
1180 END

```





# ALIENS

## ..... they're here

by John Baker

32K + speech pak (optional)  
GAME

**S**EE IF YOU CAN beat the alien computer. In this game you try to score the most points against the computer or a friend.

If you have a Tandy speech/sound pak, then plug it in and the program will tell you what to do and give extra sound effects.

The screen is set out on a square grid with random numbers in rows,

```
4 7 9 3 2 7
7 5 4 1 3 2
```

Numbers that are odd are

negative and numbers that are even are positive, eg the number 1 is -1 and the number 4 is +4.

The cursor is to the left, eg

```
4 7 9 3 2 7
7 5 4x1 3 2
```

In this case the letter 'x' is the cursor, therefore the number is -1.

You take turns at picking a number. One person moves the cursor vertically when it is his/hers/its turn and the other person moves the cursor horizontally when it is his/hers/its turn. This is so

that you can only select from one column or row, eg

```
4 6 2 3 1 7
1 3 6 7x2 4
7 6 2 1 1 3
```

If player one can only move horizontally and it is his turn. He can select -1, -3, 6, -7, 2 or 4 because the cursor is in row two.

Player one uses the up and down arrows to move the cursor and the '1' key to select a number. This also applies when playing the computer.

Player two uses the left and right arrows to move the cursor and the '-' key to select a number.

The computer keeps score at the side and when all numbers are taken or it is impossible for both players to have a turn then the game is over.

Person with the highest score wins that game.

When the game is over you can play against them again. The computer keeps score of how many games each person has. This is above each players score in the game.

At any time during the game you may restart with 'R' or end the program with 'E'.

### The Listing:

```
0 GOTO10
1 ***ALIEN BY JOHN BAKER
  ***WITH OR WITHOUT THE TANDY
  ***SPEECH/SOUND CARTRIDGE.
3 SAVE"284D:3":END'1
10 POKE&HFF7D,1:POKE&HFF7D,0:GOT
O100
20 POKE&HFF00+1,52:POKE&HFF00+3,
63:POKE&HFF00+35,60:FOR I=1 TO L
EN(A$)
30 IFPEEK(&HFF7E) AND 128=0 THEN
30
40 POKE &HFF7E,ASC(MID$(A$,I,1))
:NEXT I
50 IF PEEK(&HFF7E) AND 128=0 THEN
N 50
60 POKE &HFF7E,13:RETURN
70 IF PEEK(&HFF7E)=191 THEN 70 E
LSE RETURN
80 IFPEEK(&HFF7E) AND 128=0 THEN
80 ELSE RETURN
100 GOSUB1000
105 Z=352:A$="..JOHN BAKER SOFTV
HER ... PREZENT":GOSUB20
110 PRINT@Z+7,"John"+CHR$(128)+"
baker"+CHR$(128)+"software";
113 IF Z=32 THEN 120
115 FORCV=1TO100:NEXTCV:PRINT@Z+
7,STRING$(19,128);:Z=Z-32:GOTO11
0
120 Z=64+7
```

```

125 FORCV=1TO20:NEXTCV:PRINT@Z,C
HR$(163);:Z=Z+1:IF Z=64+7+19 THE
N 130 ELSE 125
130 PRINT@128+13,"present";:Z=16
0+13
135 PRINT@Z,CHR$(163);:Z=Z+1:IF
Z=160+13+7 THEN 140 ELSE 135
140 AS="THE A L E N ":GOSUB20:PRI
NT@288+12,"THE ALIEN";:Z=256+4+1
2:Z1=Z+1
145 PRINT@Z,CHR$(211);:PRINT@Z1,
CHR$(211);:Z=Z-1:Z1=Z1+1:IF Z=25
6+11 THEN 150 ELSE 145
150 PRINT@256+11,CHR$(209);:PRIN
T@256+21,CHR$(210);:PRINT@288+11
,CHR$(213);:PRINT@288+21,CHR$(21
8);:PRINT@320+11,CHR$(180);:PRIN
T@320+21,CHR$(184);:Z=320+12:Z1=
320+20
155 PRINT@Z,CHR$(188);:PRINT@Z1,
CHR$(188);:Z=Z+1:Z1=Z1-1:IF Z=32
0+12+5 THEN 160 ELSE 155
160 Z=320+12
165 PRINT@Z,CHR$(163);:Z=Z+1:IF
Z=320+12+3+6 THEN 170 ELSE 165
170 DATA 2,2,0,0,0,254,254,254,1
5,0,0,254,0,0
175 GOSUB70:DIM A(13):Y=&HFF7E:P
OKEY,175:GOSUB80:FORB=0TO 13:REA
D A(B):NEXT B:FOR A=0 TO 13:POKE
Y,A:GOSUB80:POKE Y,A(A):GOSUB80
:NEXTA
180 FORA=0TO10:FORB=50 TO100 STE
P10:POKEY,0:GOSUB80:POKEY,B:GOSU
B80:NEXTB,A:FORA=0TO5:FORB=1TO25
5STEP10:POKEY,0:GOSUB80:POKEY,B:
GOSUB80:NEXTB,A:POKE&HFF7D,1:POK
E&HFF7D,0
185 PRINT@384+7,"instructions"+C
HR$(128)+"v"+CHR$(128)+"or"+CHR$(
128)+"n";:AS="INSTRUCTIONS .YES
OR NO ":GOSUB20:GOSUB70
186 AS=INKEY$:IFA$=""THEN186
187 IFA$="Y" THEN AS="YES":GOSUB
20:GOTO190 ELSE IF AS="N" THEN A
$="NO":GOSUB20:GOTO190 ELSE 186
190 PRINT@480,"";:FORCV=1TO20:FO
RA=1TO100:NEXTA:PRINT:NEXTCV::IF
AS="YES" THEN 1200 ELSE 200
200 CLSO:GOSUB1000:PRINT@33,STRIN
G$(10,218);:"the"+CHR$(128)+"all
en":STRING$(11,213);:Z=128+10:DI
M D(10,10)
201 PRINT@224+5,"SELECT 1 OR 2 P
LAYERS?";:AS="SELECT 1 OR 2 PLAY
ERS":GOSUB20:GOSUB70
202 AS=INKEY$:IFA$=""THEN202ELSE
IF AS="1"THEN600 ELSE IFA$="2"TH
EN203 ELSE202
203 GOSUB20:PRINT@224+5,STRING$(
22,128);:AS="PLAYER 1. ENTER YOUR
NAME":GOSUB20:GOSUB70:PRINT@224
+5,"";:INPUT"PLAYER 1":P5$:PRINT
@224+5,STRING$(26,128);CHR$(149)
;
204 AS="PLAYER 2 . ENTER YOUR NAM
E ":GOSUB20:GOSUB70:PRINT@224+5,
";:INPUT"PLAYER 2":P6$:PRINT@22
4+5,STRING$(26,128);CHR$(149);
205 PRINT@Z,STRING$(21,32);:Z=Z+
32:IFZ=448+10THEN210ELSE205
210 PRINT@129,"player";:PRINT@16

```

```

1,"one";:PRINT@257+32,"player";:
PRINT@289+32,"two";:PRINT@160+4,
P3;:PRINT@289+32+3,P4;:PRINT@193
,"score";:PRINT@353,"score";
211 GOSUB1500
215 GOSUB 1600
219 CL=1:H=0:RW=1:P1=0:P2=0:MC=0
:CM=0:MP=0:MO=0
220 GOSUB1700
225 P1=P1+J:PRINT@193+32,P1;
230 GOSUB1900
235 P2=P2+J:PRINT@322+63,P2;
240 GOTO220
599 GOTO 599
600 GOSUB20:PRINT@224+5,STRING$(
22,128);
604 AS="HUMAN . YOU MUST FIRST
ENTER YOUR NAME .":GOSUB20:GOSU
B70:PRINT@224+5,"HUMAN";:INPUTP7
$:PRINT@224+5,STRING$(26,128);CH
R$(149);
605 PRINT@Z,STRING$(21,32);:Z=Z+
32:IFZ=448+10THEN610ELSE605
610 PRINT@129,"human";P3;:PRINT@
257,"alien";P4;:PRINT@161,"score
";:PRINT@289,"score";
611 GOSUB1500
615 GOSUB1600
619 P1=0:P2=0:CL=1:RW=1:MP=0:MO=
0:MC=0:CM=1
620 GOSUB1700
625 P1=P1+J:PRINT@193,P1;
630 REM COMPUTERS TURN
639 X=1
640 KL=D(RW,X):IF KL=0 THEN X=X+
1:GOTO650 ELSE GOSUB800:PORT=1TO
10:J=D(RW,T):GOSUB1810:IF J=0 TH
EN IF T=10 THEN 665 ELSE NEXTT
641 IF KL=>J THEN NEXTT ELSE X=X
+1:GOTO640
645 GOTO665
650 IF X=11 THEN MP=1:GOSUB900:G
OTO620
660 GOTO640
665 MP=0:CL=X:PRINT@96+9+(32*RW)
+(2*CL),CHR$(191);:P2=P2+KL:D(RW
,CL)=0:PRINT@321,P2;:SOUND20,1:G
OTO620
800 REM FIX
810 IF KL=1 THEN KL=-1
820 IF KL=3 THEN KL=-3
830 IF KL=5 THEN KL=-5
840 IF KL=7 THEN KL=-7
850 IF KL=9 THEN KL=-9
860 RETURN
900 REM COMPUTER MISSES TURN
910 IF MP=1 AND MO=1 THEN 25000
920 IF MP=1 AND MC=0 THEN AS="TH
E ALIEN MISSES A TURN":GOSUB20:G
OSUB70:GOTO620
930 AS="YOU MUST PASS YOUR TURN
":GOSUB20:GOSUB70:RETURN
999 GOTO 999
1000 REM BORDER ROUTINE
1010 CLSO:Z=15:Z1=16
1012 FORCV=1TO20:NEXTCV:PRINT@Z,
CHR$(156);:PRINT@Z1,CHR$(156);:Z
=Z-1:Z1=Z1+1:IFZ=0 THEN 1014 ELS
E 1012
1014 PRINT@0,CHR$(158);:PRINT@31
,CHR$(157);
1020 Z=Z+32:FORCV=1TO20:NEXTCV:P

```

```

RINT@Z,CHR$(154);:PRINT@Z+31,CHR
$(149);:IF Z=416 THEN 1030 ELSE
1020
1030 PRINT@448,CHR$(155);:PRINT@
479,CHR$(151);:Z=1:Z1=30
1040 FORCV=1TO20:NEXTCV:PRINT@44
8+Z,CHR$(147);:PRINT@448+21,CHR$(
147);:Z=Z+1:Z1=Z1-1:IF Z=16 THE
N Z=0:Z1=0:RETURN ELSE 1040
1199 REM NSTRUCTIONS
1200 GOSUB1000
1210 PRINT@33,STRING$(9,170);:"in
structions":STRING$(9,165);
1220 Z=97
1225 PRINT@Z,STRING$(30,32);:Z=Z
+32:IF Z=449 THEN 1230 ELSE1225
1230 PRINT@97,"CAN YOU BEAT THE
ALIEN?";:PRINT@129,"THE AIM OF T
HIS GAME IS TO";:PRINT@161,"SCOR
E MORE POINTS THAN THE";:PRINT@1
93,"COMPUTER OR OPPONENT.";:PRI
T@225,"YOU SELECT YOUR SCORE BY"
;:PRINT@257,"PLAYER 1:'1' PLAY
ER 2:'-':";
1235 PRINT@289,"WHEN ALL NUMBERS
ARE";:PRINT@321,"TAKEN THE ONR
WITH THE HIGHEST";:PRINT@353,"SC
ORE WINS.";
1240 AS=" CAN YOU BEAT THE A LEE
N ... THE AIM OF THIS GAME IS T
O SCORE MORE POINTS THAN THE COM
PUTER OR OPPONENT . YOU SELECT YO
UR SCORE BY ..PLAYER 1 . 1 KEY A
ND PLAYER 2 . MY NUS KEY":GOSUB20
:GOSUB70
1245 AS="WHEN ALL NUMBERS ARE TA
KE N . THE ONE WITH THE HIGHEST
SCORE WINS . ":GOSUB20:GOSUB70
1246 PRINT@417," <PRESS AN
Y KEY>";:AS="PRESS ANY KEY":GOSU
B20:GOSUB70
1250 AS=INKEY$:IFA$=""THEN1250
1255 GOSUB70:DIM B(13):Y=&HFF7E:
POKEY,175:GOSUB80
1256 FORB=0TO13:B(B)=0:NEXT
1257 B(7)=254:B(8)=15
1260 FORA=0TO13:POKEY,A:GOSUB80:
POKEY,B(A):GOSUB80:NEXT
1265 Z=20:Z1=120:FORB=1TO40:POK
EY,0:GOSUB80:POKEY,Z+(B*2):GOSUB
80:POKEY,0:GOSUB80:POKEY,Z1+(B*2
):GOSUB80:NEXTB
1270 POKE&HFF7D,1:POKE&HFF7D,0
1275 Z=97
1280 PRINT@Z,STRING$(30,32);:Z=Z
+32:IFZ=449THEN1285 ELSE1280
1285 PRINT@97,"YOU MAY MOVE ONLY
HORIZONTALLY";:PRINT@129,"OR ON
LY VERTICALLY.";:PRINT@161,"SCOR
ING:-";:PRINT@193,"ODD NUMBERS-N
EGATIVE";:PRINT@225,"EVEN NUMBER
S-POSITIVE";:PRINT@353,"NOTE:-TH
AT THE CURSOR IS TO";:PRINT@353+
32,"THE LEFT OF THE NUMBER!";
1286 PRINT@257,"PRESS R TO RESTA
RT";:PRINT@289,"PRESS E TO QUIT"
;
1290 AS=" YOU MAY MOVE ONLY HORI
ZONTALLY OR ONLY VERTICALLY ...
SCORING IS .. ODD NUMBERS ARE NE
GATIF AND EVEN NUMBERS POSITIF .
PRESS R TO RE START THE PRO GRA

```



```

M...PRESS E TO QUIT THE PRO GRAM
1295 GOSUB20:GOSUB70:AS=" .NOTE
THAT THE CURSOR IS TO THE LEFT O
F THE NUMBER .. GOOD LUK! ":GOSU
B20:GOSUB70
1300 PRINT@417," <PRESS AN
Y KEY>";:AS="PRESS ANY KEY TO BE
GIN ":GOSUB20:GOSUB70
1305 AS=INKEY$:IFA$=""THEN1305
1308 POKEY,175
1309 FORB=0TO13:B(B)=0:NEXT:B(7)
=254:B(8)=15:FORA=0TO13:POKEY,A:
GOSUB80:POKEY,B(A):GOSUB80:NEXT
1310 Z=20:Z1=120:FORB=0TO1STEP-
1:POKEY,0:GOSUB80:POKEY,Z+B:GOSU
B80:POKEY,0:GOSUB80:POKEY,Z1+B:G
OSUB80:NEXTB
1315 POKE&HFF7D,1:POKE&HFF7D,0
1320 FORA=1TO16:FORCV=1TO100:NEX
TCV:PRINT@480,STRING$(32,32):NEX
T
1330 GOTO 200
1500 REM NUMBER ROUTINE
1505 F=1:G=1:S=0
1510 A=RND(22):ON A GOSUB 1520,1
525,1530,1535,1540,1541,1542,154
3,1544,1520,1525,1530,1535,1540,
1541,1520,1525,1530,1535,1520,15
25,1525,1520
1515 G=G+1:IF G=11 THEN GOSUB151
7
1516 IF S=1 THEN RETURN ELSE 151
0
1517 F=F+1:G=1:IF F=11 THEN S=1:
RETURN ELSE RETURN
1520 D(F,G)=1:RETURN
1525 D(F,G)=2:RETURN
1530 D(F,G)=3:RETURN
1535 D(F,G)=4:RETURN
1540 D(F,G)=5:RETURN
1541 D(F,G)=6:RETURN
1542 D(F,G)=7:RETURN
1543 D(F,G)=8:RETURN
1544 D(F,G)=9:RETURN
1600 REM PRINT NUMBERS
1605 G=1:Z=128+10:Z1=Z
1610 FORX=1TO10:PRINT@Z,D(G,X);:
Z=Z+2:NEXT:G=G+1:Z1=Z1+32:Z=Z1:IF
G=11 THEN RETURN ELSE 1610
1700 REM VERTICAL PLAYER SELECTI
ON
1705 H=96+8+(2*CL)+(32*RW)
1706 FORX=1TO10:IF D(X,CL)<>0THE
N 1710
1707 NEXT:MO=1:GOSUB1850:J=0:RET
URN
1710 C$=CHR$(175)
1711 MO=0
1715 PRINT@H,C$;
1720 AS=INKEY$:IFA$=""THEN1720
1725 PRINT@H,CHR$(32);
1730 IFA$=CHR$(94) THEN H=H-32:R
W=RW-1
1731 IF AS="R" THEN GOSUB30000
1732 IFA$=CHR$(10) THEN H=H+32:R
W=RW+1
1733 IFA$="E"THEN GOSUB35000
1734 IFA$="1" THEN J1=1:GOSUB18
0:RETURN
1740 IFH<128+10 THEN H=H+(32*10)
:RW=RW+10

```

```

1742 IFH>416+10+20 THEN H=H-(32*
10):RW=RW-10
1745 PRINT@H,CHR$(175);:GOTO1720
1800 REM SELECTION OF NUMBER
1805 J=D(RW,CL):IF J=0 THEN AS="
YOU CARNT DO THAT ":GOSUB20:GOSU
B70:GOTO1830 ELSE D(RW,CL)=0:PRIN
T@H+1,CHR$(191);:SOUND20,1
1810 IF J=1 THEN J=-1
1811 IF J=3 THEN J=-3
1812 IF J=5 THEN J=-5
1813 IF J=7 THEN J=-7
1814 IF J=9 THEN J=-9
1815 RETURN
1830 IF J1=1 THEN 1710 ELSE IF J
1=2 THEN 1910
1850 REM SEE IF NO PLACES LEFT
1851 IF CM=1 THEN MC=1:GOSUB900:
MC=0:RETURN
1855 IF MP=1 AND MO=1 THEN GOTO2
0000
1860 AS="YOU MUST PASS YOUR TURN
..":GOSUB20:GOSUB70:RETURN
1900 REM HORIZONTAL PLAYER SELEC
TION
1905 H=96+8+(32*RW)+(2*CL)
1906 FORX=1TO10:IFD(RW,X)<>0THEN
1910
1907 NEXT:MP=1:GOSUB1850:RETURN
1910 C$=CHR$(175)
1911 MP=0
1915 PRINT@H,C$;
1920 AS=INKEY$:IFA$=""THEN1920
1925 PRINT@H,CHR$(32);
1930 IFA$=CHR$(9) THEN H=H+2:CL=
CL+1
1931 IF AS="R" THEN GOSUB30000
1932 IFA$=CHR$(8) THEN H=H-2:CL=
CL-1
1933 IFA$="E"THEN GOSUB35000
1934 IF AS="-" THEN J1=2:GOSUB18
00:RETURN
1940 IFH<96+10+(32*RW) THEN H=H+
2:CL=10:H=H+(2*9)
1942 IFH>96+10+18+(32*RW) THENH=
H-(2*10):CL=1
1945 PRINT@H,CHR$(175);:GOTO1920
2000 Y=&HFF7E:POKEY,175:GOSUB80
2005 ON JK GOSUB2010,2020,2030,2
040
2006 POKE&HFF7D,1:POKE&HFF7D,0
2007 RETURN
2010 FORX=255TO1STEP-1:POKEY,0:G
OSUB80:POKEY,X:GOSUB80:POKEY,7:G
OSUB80:POKEY,62:GOSUB80:POKEY,8:
GOSUB80:POKEY,15:GOSUB80:NEXT:RE
TURN2020 FORX=1TO200STEP5:POKEY,
0:GOSUB80:POKEY,X:GOSUB80:POKEY,
7:GOSUB80:POKEY,62:GOSUB80:POKEY
,8:GOSUB80:POKEY,15:GOSUB80:NEXT
:RETURN
2030 FORB=0TO13:A(B)=0:NEXT:A(7)
=7:A(8)=16:A(9)=16:A(10)=16:A(12
)=56
2031 FORA=0TO13:POKEY,A:GOSUB80:
POKEY,A(A):GOSUB80:NEXT
2035 POKEY,13:GOSUB80:POKEY,0:FO
RA=1TO1500+500:NEXTA:RETURN
20000 JK=2:GOSUB2000:JK=3:GOSUB2
000:AS="GAME OVER ..":GOSUB20:GOS
UB70:IF P1>P2 THEN AS=P5$+" IS T
HE WINNER":P3=P3+1 ELSE IF P2>P1

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THEN AS=P6$+" IS THE WINNER":P4
=P4+1 ELSE AS="YOU BOTH WIN ..IT
IS A DRAW ":P3=P3+1:P4=P4+1
20005 PRINT@289+35,P4;:PRINT@164
,P3;
20010 GOSUB20:GOSUB70:AS="PLAYER
1 ..YOU "+P5$+" HAVE 1 "+STR$(P
3)+" GAMES ":GOSUB20:GOSUB70:AS=
"PLAYER 2 ..YOU "+P6$+" HAVE 1 "
+STR$(P4)+" GAMES ":GOSUB20:GOSU
B70
20020 AS="DO YOU BOTH WISH TO CO
NTINUE PLAYING .. YES OR NO..":G
OSUB20:GOSUB70
20025 PRINT@96+10,"CONTINUE?";
20030 AS=INKEY$:IFA$=""THEN20030
ELSEIFA$="Y"THENGOSUB1000:Z=128+
10:PRINT@33,STRING$(10,218);"the
"+CHR$(128)+"alien";STRING$(11,2
13);:GOTO205 ELSE IFA$="N" THEN
20040 ELSE20020
20040 GOTO 25050
25000 JK=2:GOSUB2000:JK=3:GOSUB2
000:AS=" GAME OVER .."
25005 IF P1>P2 THEN AS="YOU HAVE
BEATEN THE A LEE N ":GOSUB20:GO
SUB70:P3=P3+1 ELSE IF P2>P1 THE
N AS="THE A LEE N HAS BEATEN YOU
.. YOU LOSE !":GOSUB20:GOSUB70:
P4=P4+1
25010 IF P1=P2 THEN AS="THE GAME
WAS A DRAW .. WE BOTH WIN ..":G
OSUB20:GOSUB70:P3=P3+1:P4=P4+1
25015 PRINT@129+5,P3;:PRINT@257+
5,P4;
25020 AS=P7$+" HAS 1 "+STR$(P3)+
" GAMES ":GOSUB20:GOSUB70:AS="
.. THE A LEE N HAS 1 "+STR$(P4)+"
GAMES ":GOSUB20:GOSUB70
25030 AS=" .. I WISH TO CONTINUE
PLAYING .. DO YOU ALSO WISH TO
CONTINUE PLAYING HUMAN .. YES OR
NO ":GOSUB20:GOSUB70
25035 PRINT@96+10,"CONTINUE?";
25040 AS=INKEY$:IFA$=""THEN25040
ELSEIFA$="Y"THENGOSUB1000:Z=128+
10:PRINT@33,STRING$(10,218);"the
"+CHR$(128)+"alien";STRING$(11,2
13);:GOTO605 ELSE IF AS="N" THEN
25050 ELSE 20020
25050 CLS:AS=" THIS WAS BROUGHT
TO YOU BY JOHN BAKER SOFTWER "
:GOSUB20:GOSUB70:JK=1:GOSUB2000:
JK=3:GOSUB2000:PRINT@480,"THE EN
D!";:END
30000 AS=" ARE YOU SURE THAT YOU
WANT TO RE START THE PRO GRAM
.. YES OR NO ..":GOSUB20:GOSUB70
30010 AS=INKEY$:IFA$=""THEN30010
30020 IFA$="Y"THENRUN ELSE IFA$=
"N" THEN AS=" GOOD CHOICE ":GOSU
B20:GOSUB70:RETURN ELSE 30000
30050 GOTO25050
35000 AS="ARE YOU SURE YOU WANT
TO QUIT THE PRO GRAM ..YES OR NO
..":GOSUB20:GOSUB70
35010 AS=INKEY$:IFA$=""THEN35010
ELSEIFA$="Y"THEN25050 ELSE IFA$=
"N"THEN AS=" GOOD CHOICE ":GOSUB
20:GOSUB70:RETURN ELSE35000

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# PRIME TIME

by Bob Horne

CoCo 1, 2 and 3 EDUCATION

**P**LEASE NOTE THAT if you have a grey-case CoCo, you may find it advantageous to PCLEAR8 before loading the program.

In this program, you are able to choose the level of numbers to be practised (19 to 99 in 9 levels). You may also choose to practise picking the prime or the composite or a mixture of both from a set of 4, 5 or 6 numbers.

These numbers are put at the top of the screen. The bottom half of the screen represents a view of empty space through your observation window. When you have the answer correct, a spacecraft suddenly appears, zooming straight towards you. At the last moment, however, it changes course and zips beneath your window. The various images of the spacecraft are drawn and stored on graphics pages 4 to 8.

These are then copied to page 2 with the PCOPY command. This happens so rapidly that a short delay loop has to be included (Line 1150 in Version 1 and Line

1110 in Version 2).

Graphics page 3 holds the view of empty space.

Two versions (as mentioned in the previous paragraph) are included. The first version contains class names which, of course, you will want to alter to suit your own class.

Change the data in LINE 1520. Also change the value of TL in Line 10 to the number of names you wish to enter. If you have more than 28 in your class, you will have to find some other method to get the user's name (Lines 560 to 580).

For example, you could use a similar method to that used in my programs on fractions.

Of course, if you are using a CoCo 3 then just set the WIDTH to 40 and you should have no problems.

In any event, if you have a problem with this, please contact me. In this version, pressing "E" on the final screen of the program will get you a list of users who need further help.

Please treat this as a guide only as some users will deliberately get answers wrong to prolong their stay at the computer.

## Listing One

```
1 REM*****
2 REM* PRIME AND COMPOSITE *
3 REM* NUMBERS***FOR COCO1 & 2 *
4 REM* BY *
5 REM* BOB HORNE *
6 REM*****
7 GOTO9
8 SAVE"309B:3":END'2
9 IF PEEK(188)=8 THENPOKE248,50:
POKE249,98:POKE250,28:POKE251,17
5:POKE252,126:POKE253,173:POKE25
4,165:POKE410,126:POKE411,0:POKE
412,248:REM*****DISABLE <BREAK
KEY>*****
10 PCLEAR8:CLEAR600:TL=28:DINC$,
W$,CH$(58),N$(TL),R$(TL),PN(25),
CN(73),CA(8),AR(4),AQ(4),TT(3),D
(6),C(6),C$(6)
20 CLS:PRINT@194,"PRIME AND COMP
OSITE NUMBERS.":PRINT@270,"BY":P
RINT@330,"BOB HORNE.":SCREEN0,1
```



```

30 FORX=1TO25:READPN(X):NEXTX:FO
RX=1TO73:READCN(X):NEXTX
40 FORZ=0TO58:READCH$(Z):NEXTZ:F
ORZ=1TO TL:READN$(Z):NEXTZ:FORZ=
1TO TL:R$(Z)=STRING$(3,32):NEXTZ
50 P$="L16T16P16":P1$="T12L4V15O
3CEGO4L2CO3L4GO4L2C":P2$="L8T8P8
":P3$="T12L4O2V15CFDEGABGFDECGAD
FEGCFDEGADCGEFL1C":A=RND(-TIMER)
60 RA$(1)="GREAT":RA$(2)="GOOD":
RA$(3)="TOPS":RA$(4)="YEAHHH":CO
LOR5,8:PMDL1,1:PCLS:DRAW"S4BM5,
20U20NG5F5":GET(0,0)-(10,20),AR,
G:PCLS:GET(0,0)-(10,20),AQ,G
70 L=22:Y2=0:S=8
80 C1$="C8R8U2R8D2R8U4R16D4R8U2R
8D2R8D3L8D2L8U2L8D4L16U4L8D2L8U2
L8U3":GOSUB150:PCOPY2TO3:DRAW"S4
BM95,165"+C1$:PAINT(97,166):LINE
(122,165)-(131,166),PSET,BF:GO
SUB150:PCOPY2TO4
90 CLS:PRINT@261,"JUST A MOMENT
PLEASE.":SCREEN0,1
100 PCLS:DRAW"S8BM63,163"+C1$:PA
INT(65,165):LINE(119,163)-(134,1
70),PSET,BF:GOSUB150:PCOPY2TO5
110 PCLS:DRAW"S12BM31,161"+C1$:P
AINT(32,162):LINE(114,161)-(139,
173),PSET,BF:GOSUB150:PCOPY2TO
6
120 PCLS:DRAW"S16BM0,162"+C1$:PA
INT(2,164):LINE(110,160)-(145,17
6),PSET,BF:GOSUB150:PCOPY2TO7
130 PCLS:C1$="C8U2R8D2R8U4R16D4R
8U2R8D7L8U2L8D2L16U2L8D2L8U2L8U3
":DRAW"S21BM0,164"+C1$:PAINT(2,1
66):LINE(103,161)-(148,191),PRES
ET,BF:GOSUB150:PCOPY2TO8
140 GOTO410
149 REM***WINDOWS OF S-SHIP***
150 DRAW"C7S4BM0,133M30,143R195M
255,133NL255BM225,143D43NR30L195
NU43L30":PAINT(35,135),7,7:PAINT
(2,189),7,7:LINE(0,103)-(255,125
),PSET,B
160 X1=2:Y1=118:C1=6:C$="KEYS
",":GOSUB170:X1=140:C$="ENTER
,HELP":GOSUB170:DRAW"C6BM57,113M
E3NF3R8BR11R8NH3NG3":RETURN
169 REM***DIVIDE UP TO PRINT***
170 IF LEN(C$)<=L THENV$=C$:GOSU
B210:RETURN
180 FOR T=L TO1STEP-1:IF MID$(C$,
T,1)="" THEN200
190 NEXTT
200 W$=LEFT$(C$,T):GOSUB210:C$=R
IGHT$(C$,LEN(C$)-T):GOTO170
209 REM***TO GRAPHICS SCREEN***
210 IF SC=1 THEN260 ELSEDRAW"S=S
:C=C1:BM"+STR$(X1)+"","+STR$(Y1)
220 FORI=1TOLEN(W$)
230 P=ASC(MID$(W$,I,1))-32
240 DRAWCH$(P)+"BR3"
250 NEXTI:Y1=Y1+Y2:RETURN
259 REM***TO TEXT SCREEN***
260 PRINTW$:RETURN
269 REM***GET NEW PAGE (TEXT)***
270 PRINT@484,"PRESS (ENTER) TO
CONTINUE.":IN$=INKEY$
280 IN$=INKEY$:IF IN$<>CHR$(13)
THEN280 ELSE RETURN
289 REM***HELP ASKED FOR***

```

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290 PUT(P,40)-(P+10,60),AQ,PSET:
IF H<HM-1 THEN320
300 IF R1=1 THEN C$="PRIME":C2$=
"ONLY TWO FACTORS." ELSE C$="COM
POSITE":C2$="MORE THAN TWO FACTO
RS."
310 C$=C$+" NUMBERS HAVE "+C2$:X
1=0:Y1=65:C1=7:GOSUB170:FORX=1TO
1500:NEXTX:LINE(0,50)-(255,95),P
RESET,BF:PUT(P,40)-(P+10,60),AR,
PSET:FORX=1TO HM:D(X)=0:NEXTX:H=
0:RETURN
320 H=H+1:IF H=3 THEN NV=NV+1
330 D=RND(HM):IF D=B THEN330
340 IF D(D)=1 THEN330 ELSE D(D)=
1
350 A=0:FORX=1TO C(D)
360 IF C(D)/X=INT(C(D)/X) THEN A
=A+1
370 NEXTX
380 A$=STR$(A):X1=0:Y1=65:C1=7:Y
2=14:C$=C$(D)+" HAS"+A$+" FACTOR
S.":GOSUB170
390 FORX=1TO1500:NEXTX
400 LINE(0,50)-(255,95),PSET,B
F:PUT(P,40)-(P+10,60),AR,PSET:RE
TURN
409 REM***CHOOSE A LEVEL***
410 C$=CHR$(128):CLS:PRINT@0,STR
ING$(5,128)+"please"+C$+"choose"
+C$+"a"+C$+"level"+STRING$(5,128
);
420 FORX=1TO9:PRINT@X*32+37,STR$(
X)+" - NUMBERS TO"X*10+9:NEXTX
430 PRINT@416,STRING$(3,128)+"pl
ease"+C$+"type"+C$+"a"+C$+"numbe
r"+C$+:POKE1464,40:POKE1465,49:P
OKE1466,45:POKE1467,57:POKE1468,
41:PRINT@445,STRING$(3,128);
440 IN$=INKEY$
450 IN$=INKEY$:IF IN$="" THEN450
ELSEIF ASC(IN$)<49 OR ASC(IN$)>
57 THEN450
459 REM***WHICH KIND?***
460 N=VAL(IN$):CLS:PRINT@0,STRIN
G$(6,128)+"please"+C$+"choose"+C
$+"a"+C$+"type"+STRING$(6,128);
470 PRINT@104,"1 - PRIME.":PRINT
@136,"2 - COMPOSITE.":PRINT@168,
"3 - A MIXTURE."
480 PRINT@256,STRING$(3,128)+"pl
ease"+C$+"type"+C$+"a"+C$+"numbe
r"+C$+:POKE1304,40:POKE1305,49:P
OKE1306,45:POKE1307,51:POKE1308,
41:PRINT@285,STRING$(3,128);
490 IN$=INKEY$
500 IN$=INKEY$:IF IN$="" THEN500
ELSEIF ASC(IN$)<49 OR ASC(IN$)
>51 THEN500
510 R=VAL(IN$)
519 REM***HOW MANY ON SCREEN***
520 PRINT@384,"HOW MANY NUMBERS
WOULD YOU LIKE ON THE SCREEN AT
ONCE?":PRINT@480,STRING$(3,128)"
please"+C$+"type"+C$+"a"+C$+"numbe
r":POKE1528,40:POKE1529,52:POKE15
30,45:POKE1531,54:POKE1532,41:PO
KE1533,32:POKE1534,32:POKE1535,3
2
530 IN$=INKEY$
540 IN$=INKEY$:IF IN$="" THEN540
ELSEIF ASC(IN$)<52 OR ASC(IN$)

```

```

>54 THEN540
550 HM=VAL(IN$)
559 REM***GET THE USER'S NAME***
560 NV=0:CLS:FORX=1TO TL:X$=STR$(
X):IF X>9 THEN X$=RIGHT$(X$,2)
570 PRINTX$;",";N$(X),:NEXTX:INP
UT"TYPE NUMBER IN FRONT OF NAME
THEN PRESS ENTER-->";N$
580 K=VAL(N$):IF K<1 OR K>TL THE
NCLS:GOTO560
590 GOSUB1360:CLS
600 IF R=3 THEN R1=RND(2) ELSE R
1=R
610 PCLS:SCREEN1,1
619 REM***PICK THE NUMBERS***
620 ON N GOTO630,640,650,660,670
,680,690,700,710
630 N1=8:N2=10:GOTO720
640 N1=10:N2=18:GOTO720
650 N1=12:N2=26:GOTO720
660 N1=15:N2=33:GOTO720
670 N1=17:N2=41:GOTO720
680 N1=19:N2=49:GOTO720
690 N1=22:N2=56:GOTO720
700 N1=24:N2=64:GOTO720
710 N1=25:N2=73
720 B=RND(HM)
730 IF R1=2 THEN810
740 FORX=1TO HM
750 C=RND(N2):C(X)=CN(C):IF X=1
THEN790
760 FORZ=X-1 TO1STEP-1
770 IF C(X)=C(Z) THEN Z=1:NEXTZ:
GOTO750
780 NEXTX
790 NEXTX
800 C=RND(N1):C(B)=PN(C):GOTO860
810 FORX=1TO HM
820 C=RND(N1):C(X)=PN(C):IF X=1
THEN860
830 FORZ=X-1 TO1STEP-1
840 IF C(X)=C(Z) THEN Z=1:NEXTZ:
GOTO820
850 NEXTX
860 NEXTX
870 C=RND(N2):C(B)=CN(C)
879 REM***SET UP SCREEN***
880 PCLS:Y2=0:PCOPY3TO2
890 DRAW"C8":LINE(0,0)-(255,14),
PSET,BF:IF R1=1 THEN C2$="PRIME"
:X1=47 ELSE C2$="COMPOSITE":X1=2
3
900 Y1=12:C1=5:C$="PICK THE "+C2
$:GOSUB170
910 Y1=35:FORX=1TO HM
920 IF HM=4 THEN X1=(X-1)*56+33
ELSE IF HM=5 THEN X1=(X-1)*46+25
ELSE X1=(X-1)*42+14
930 C$(X)=STR$(C(X)):C$(X)=RIGHT
$(C$(X),LEN(C$(X))-1):C$=C$(X):D
RAW"C6":LINE(X1-5,21)-(X1+24,39),
PSET,B:IF LEN(C$(X))=1 THENX1=X
1+6
940 C1=8:GOSUB170:NEXTX
950 IF HM=4 THEN P=39 ELSE IF HM
=5 THEN P=31 ELSE P=20
960 FORX=1TO HM:D(X)=0:NEXTX:H=0
:B1=1
970 PUT(P,40)-(P+10,60),AR,PSET
979 REM***GET AN ANSWER***
980 IN$=INKEY$
990 IN$=INKEY$:IF IN$="" THENDRA

```

```

W"C5BM212,118;XCH$(40);":PLAYP2$
:DRAW"C6BM212,118;XCH$(40);":PLA
YP2$:GOTO990
1000 IF IN$="H" THEN GOSUB290:GO
TO990
1010 IF IN$=CHR$(8) OR IN$=CHR$(
9) OR IN$=CHR$(13) THEN PUT(P,40
)-(P+10,60),AQ,PSET ELSE990
1020 IF IN$=CHR$(9) THEN1060 ELS
E IF IN$=CHR$(13) THEN1100
1030 IF HM=4 AND P=<39 THEN1090
ELSE IF HM=4 THEN P=P-56:B1=B1-1
:GOTO1090
1040 IF HM=5 AND P=<31 THEN1090
ELSE IF HM=5 THEN P=P-46:B1=B1-1
:GOTO1090
1050 IF HM=6 AND P=<20 THEN1090
ELSE P=P-42:B1=B1-1:GOTO1090
1060 IF HM=4 AND P=>207 THEN1090
ELSE IF HM=4 THENP=P+56:B1=B1+1
:GOTO1090
1070 IF HM=5 AND P=>215 THEN1090
ELSE IF HM=5 THENP=P+46:B1=B1+1
:GOTO1090
1080 IF HM=6 AND P=>230 THEN1090
ELSEP=P+42:B1=B1+1
1090 PUT(P,40)-(P+10,60),AR,PSET
:GOTO990
1099 REM***EVALUATE ANSWER****
1100 IF HM=4 THEN P1=(B1-1)*56+3
3 ELSE IF HM=5 THEN P1=(B1-1)*46
+25 ELSE P1=(B1-1)*42+14
1110 IF B1<>B THEN1170
1120 FORX=1TO11:GET(P1-5,21)-(P1
+24,39),CA,G:PUT(P1-5,21)-(P1+24
,39),CA,NOT:NEXTX
1130 X1=0:Y1=75:Y2=14:C1=8:C$=RA
$(RND(4))+". "+C$(B)+" HAS ":IF
R1=1 THENC$=C$+"ONLY 2 FACTORS."
ELSE IF R1=2 THEN C$=C$+"MORE T
HAN 2 FACTORS."
1140 GOSUB170
1150 PLAYP1$:FORX=4TO8:PCOPYX TO
2:FORY=1TO30:NEXTY:NEXTX:PCOPY3
TO2:FORY=1TO1000:NEXTX:PCLS
1160 NU=NU+1:IF NU=10 THEN NU=0:
GOTO1210 ELSE600
1170 GET(P1-5,21)-(P1+24,39),CA,
G:PUT(P1-5,21)-(P1+24,39),CA,NOT
1180 NW=NW+1:X1=0:Y1=65:Y2=14:C1
=8:C$="SORRY. "+C$(B)+" HAS ":IF
R1=1 THEN C$=C$+" MORE THAN TWO
FACTORS." ELSE IF R1=2 THEN C$=
C$+" ONLY TWO FACTORS."
1190 GOSUB170:PLAYP3$:LINE(0,51)
-(255,95),PRESET,BF:Y1=75:C$="TR
Y THAT AGAIN PLEASE.":GOSUB170:F
ORX=1TO1000:NEXTX:LINE(0,60)-(25
5,78),PRESET,BF
1200 PUT(P1-5,21)-(P1+24,39),CA,
PSET:GOTO970
1209 REM*****DOES THIS USER
NEED HELP*****
1210 IF NW>3 AND R=1 THEN MID$(R
$(K),1,1)="*":TT(1)=TT(1)+1 ELSE
IF NW>3 AND R=2 THEN MID$(R$(K)
,2,1)="*":TT(2)=TT(2)+1 ELSE IF
NW>3 AND R=3 THEN MID$(R$(K),3,1
)="*":TT(3)=TT(3)+1
1219 REM****GET NEXT USER*****
1220 PCLS:X1=0:Y1=101:Y2=14:C1=8

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:C$="NEXT PLAYER. PRESS <ENTER>."
":GOSUB170:C1=7:C$="<E> TO END."
:GOSUB170:IN$=INKEY$
1230 IN$=INKEY$:IF IN$="" THEN12
30
1240 IF IN$=CHR$(13) THEN560 ELS
E IF IN$="E" THEN1250 ELSE1230
1250 FORZ1=1TO3
1260 IF TT(Z1)=0 THEN C$="NO-ONE
NEEDS HELP IN " ELSE IF TT(Z1)=
1 THEN C$="THIS STUDENT NEEDS HE
LP IN " ELSE C$="THESE STUDENTS
NEED HELP IN "
1270 IF Z1=1 THEN C2$="PRIME NUM
BERS." ELSE IF Z1=2 THEN C2$="CO
MPOSITE NUMBERS." ELSE C2$="BOTH
PRIME AND COMPOSITE NUMBERS."
1280 L=31:C$=C$+C2$:SC=1:GOSUB17
0:IF TT(Z1)=0 THEN GOSUB270:GOTO
1320
1290 X=0:FORZ=1TO TL:IF MID$(R$(
Z),Z1,1)="*" THENPRINT$(Z):X=X+
1
1300 IF X<>0 AND X/10=INT(X/10)
THEN GOSUB270:CLS
1310 NEXTZ:PRINT"THESE ARE NO MO
RE NAMES.":GOSUB270
1320 CLS:NEXTZ1
1330 CLS:PRINT"<R>UN AGAIN OR <B
>ND?":PRINT:PRINT"PLEASE TYPE <R
> OR <E>":IN$=INKEY$
1340 IN$=INKEY$:IF IN$="R" THEN
RUN ELSE IF IN$<>"E" THEN1340
1350 CLS:END
1359 REM*****EXPLANATION*****
1360 IF R=2 THEN1400 ELSE IF R=3
THENGOSUB1370:GOSUB1400:RETURN
1370 CLS:PRINT"PRIME NUMBERS HAV
E ONLY TWO FACTORS. FOR EXAM
PLE, 5 IS A PRIME NUMBER BECA
USE ITS ONLY FACTORS ARE 5 AND
1."1380 PRINT:PRINT"ZERO AND ON
E ARE NOT PRIME NUMBERS BEC
AUSE THEY DO NOT HAVE2 FACTORS.
1390 PRINT:PRINT"THE PRIME NUMBE
RS LESS THAN 20 ARE :-":PRINT"2
, 3, 5, 7, 11, 13, 17 AND 19":GO
SUB270:RETURN
1400 CLS:PRINT"COMPOSITE NUMBERS
HAVE MORE THAN TWO FACTORS. FOR
EXAMPLE, 8 HAS 1, 2, 4 AND 8 AS
FACTORS. THEREFORE, 8 IS A
COMPOSITE NUMBER."
1410 PRINT:PRINT"THE COMPOSITE N
UMBERS LESS THAN 20 ARE:-":PRINT
:PRINT"4, 6, 8, 9, 10, 12, 14, 1
5, 16 AND 18.":GOSUB270:RETURN
1419 REM****PRIME NUMBERS*****
1420 DATA2,3,5,7,11,13,17,19,23,
29,31,37,41,43,47,53,59,61,67,71
,73,79,83,89,97
1429 REM****COMPOSITE NUMBERS***
1430 DATA4,6,8,9,10,12,14,15,16,
18,20,21,22,24,25,26,27,28,30,32
,33,34,35,36,38,39,40,42,44,45,4
6,48,49,50,51,52,54,55,56,57,58,
60,62,63,64,65,66,68,69,70,72
1440 DATA74,75,76,77,78,80,81,82
,84,85,86,87,88,90,91,92,93,94,9
5,96,98,99
1449 REM****CHARACTER DATA*****

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1450 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1460 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1470 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1480 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1490 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1500 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1510 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1520 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1530 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1540 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1550 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1560 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1570 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1580 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1590 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1600 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1610 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1620 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1630 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1640 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1650 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1660 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1670 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1680 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1690 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1700 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1710 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1720 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1730 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1740 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1750 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1760 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1770 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1780 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1790 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1800 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1810 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1820 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1830 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1840 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1850 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1860 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1870 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1880 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1890 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1900 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1910 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1920 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1930 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1940 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1950 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1960 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1970 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1980 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99
1990 DATA82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99

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## Listing Two

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1 REM*****
2 REM*PRIME AND COMPOSITE *
3 REM* NUMBERS * FOR *
4 REM* BY *COCO 1 & 2 *
5 REM* BOB HORNE * VERSION 2 *
6 REM*****
7 GOTO9
8 SAVE"309BA:3":END'2
9 IF PEEK(188)=8 THEN POKE248,50
:POKE249,98:POKE250,28:POKE251,1
75:POKE252,126:POKE253,173:POKE2
54,165:POKE410,126:POKE411,0:POK
E412,248:REM****DISABLE <BREAK>
KEY*****
10 PCLEAR8:CLEARG00:DINC$,W$,CH$
(58),PN(25),CN(73),CA(8),AR(4),A
Q(4),D(6),C(6),C$(6)
20 CLS:PRINT@194,"PRIME AND COMP
OSITE NUMBERS.":PRINT@270,"BY":P
RINT@330,"BOB HORNE.":SCREEN0,1
30 FORX=1TO25:READPN(X):NEXTX:FO
RX=1TO73:READCN(X):NEXTX

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40 FORZ=0TO58:READCH$(Z):NEXTZ
50 P$="L16T16P16":P1$="T12L4V150
3CEGO4L2CO3L4GO4L2C":P2$="L8T8P8
":P3$="T12L4O2V15CFDEGABGFDECCAD
FEGCFDEGADCGEFL1C":A=RND(-TIMER)
60 RA$(1)="GREAT":RA$(2)="GOOD":
RA$(3)="TOPS":RA$(4)="YEAHHH":CO
LOR5,8:PMDL1,1:PCLS:DRAW"S4BM5,
20U20NG5F5":GET(0,0)-(10,20),AR,
G:PCLS:GET(0,0)-(10,20),AQ,G
70 L=22:Y2=0:S=8
80 C1$="C8R8U2R8D2R8U4R16D4R8U2R
8D2R8D3L8D2L8U2L8D4L16U4L8D2L8U2
L8U3":GOSUB150:PCOPY2TO3:DRAW"S4
BM95,165"+C1$:PAINT(97,166):LINE
(122,165)-(131,168),PRESET,BF:GO
SUB150:PCOPY2TO4
90 CLS:PRINT@261,"JUST A MOMENT
PLEASE.":SCREEN0,1
100 PCLS:DRAW"S8BM63,163"+C1$:PA
INT(65,165):LINE(119,163)-(134,1
70),PRESET,BF:GOSUB150:PCOPY2TO5
110 PCLS:DRAW"S12BM31,161"+C1$:P
AINT(32,162):LINE(114,161)-(139,
173),PRESET,BF:GOSUB150:PCOPY2TO
6
120 PCLS:DRAW"S16BM0,162"+C1$:PA
INT(2,164):LINE(110,160)-(145,17
6),PRESET,BF:GOSUB150:PCOPY2TO7
130 PCLS:C1$="C8U2R8D2R8U4R16D4R
8U2R8D7L8U2L8D2L16U2L8D2L8U2L8U3
":DRAW"S21BM0,164"+C1$:PAINT(2,1
66):LINE(103,161)-(148,191),PRES
ET,BF:GOSUB150:PCOPY2TO8
140 GOTO400
149 REM***WINDOWS OF S-SHIP***
150 DRAW"C7S4BM0,133P30,143R195M
255,133NL255BM225,143D43NR30L195
NU43L30":PAINT(35,135),7,7:PAINT
(2,189),7,7:LINE(0,103)-(255,125
),PSET,B
160 X1=2:Y1=118:C1=6:C$="KEYS
,":GOSUB170:X1=140:C$="ENTER
,HELP":GOSUB170:DRAW"C6BM57,113N
E3NF3R8BR11R8NH3NG3":RETURN
169 REM***DIVIDE UP TO PRINT***
170 IF LEN(C$)<=L THENV$=C$:GOSU
B210:RETURN
180 FORT=L TO1STEP-1:IF MID$(C$,
T,1)=" "THEN200
190 NEXTT
200 W$=LEFT$(C$,T):GOSUB210:C$=R
IGHT$(C$,LEN(C$)-T):GOTO170
209 REM***TO GRAPHICS SCREEN***
210 DRAW"W$S:C=C1:BM"+STR$(X1)+"
, "+STR$(Y1)
220 FORI=1TOLEN(W$)
230 F=ASC(MID$(W$,I,1))-32
240 DRAWCH$(F)+"BR3"
250 NEXTI:Y1=Y1+Y2:RETURN
259 REM***GET NEW PAGE (TEXT)***
260 PRINT@484,"PRESS <ENTER> TO
CONTINUE.":IN$=INKEY$
270 IN$=INKEY$:IF IN$<>CHR$(13)
THEN270 ELSE RETURN
279 REM***HELP ASKED FOR*****
280 PUT(P,40)-(P+10,60),AQ,PSET:
IF H<HM-1 THEN310
290 IF R1=1 THEN C$="PRIME":C2$=
"ONLY TWO FACTORS." ELSE C$="COM
POSITE":C2$="MORE THAN TWO FACTO

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RS."
300 C$=C$+" NUMBERS HAVE "+C2$:X
1=0:Y1=65:C1=7:GOSUB170:FORX=1TO
1500:NEXTX:LINE(0,50)-(255,95),P
RESET,BF:PUT(P,40)-(P+10,60),AR,
PSET:FORX=1TO HM:D(X)=0:NEXTX:H=
0:RETURN
310 H=H+1
320 D=RND(HM):IF D=B THEN320
330 IF D(D)=1 THEN320 ELSE D(D)=
1
340 A=0:FORX=1TO C(D)
350 IF C(D)/X=INT(C(D)/X) THEN A
=A+1
360 NEXTX
370 A$=STR$(A):X1=0:Y1=65:C1=7:Y
2=14:C$=C$(D)+" HAS"+A$+" FACTOR
S.":GOSUB170
380 FORX=1TO1500:NEXTX
390 LINE(0,50)-(255,95),PRESET,B
F:PUT(P,40)-(P+10,60),AR,PSET:RE
TURN
399 REM***CHOOSE A LEVEL*****
400 C$=CHR$(128):CLS:PRINT@,STR
ING$(5,128)+"please"+C$+"choose"
+C$+"a"+C$+"level"+STRING$(6,128
);
410 FORX=1TO9:PRINT@X*32+37,STR$
(X)+" - NUMBERS TO"X*10+9;NEXTX
420 PRINT@416,STRING$(3,128)+"pl
ease"+C$+"type"+C$+"a"+C$+"numbe
r"+C$;POKE1464,40:POKE1465,49:P
OKE1466,45:POKE1467,57:POKE1468,
41:PRINT@445,STRING$(3,128);
430 IN$=INKEY$
440 IN$=INKEY$:IF IN$="" THEN440
ELSEIF ASC(IN$)<49 OR ASC(IN$)>
57 THEN440
449 REM*****WHICH KIND?*****
450 N=VAL(IN$):CLS:PRINT@,STRIN
G$(6,128)+"please"+C$+"choose"+C
$+"a"+C$+"type"+STRING$(6,128);
460 PRINT@104,"1 - PRIME.":PRINT
@136,"2 - COMPOSITE.":PRINT@168,
"3 - A MIXTURE."
470 PRINT@256,STRING$(3,128)+"pl
ease"+C$+"type"+C$+"a"+C$+"numbe
r"+C$;POKE1304,40:POKE1305,49:P
OKE1306,45:POKE1307,51:POKE1308,
41:PRINT@285,STRING$(3,128);
480 IN$=INKEY$
490 IN$=INKEY$:IF IN$="" THEN490
ELSEIF ASC(IN$)<49 OR ASC(IN$)>
51 THEN490
500 R=VAL(IN$)
509 REM***HOW MANY ON SCREEN***
510 PRINT@384,"HOW MANY NUMBERS
WOULD YOU LIKE ON THE SCREEN AT
ONCE?":PRINT@480,STRING$(3,128)"
please"+C$+"type"+C$+"a"+C$+"numbe
r"+C$;POKE1528,40:POKE1529,52:POKE15
30,45:POKE1531,54:POKE1532,41:PO
KE1533,32:POKE1534,32:POKE1535,3
2
520 IN$=INKEY$
530 IN$=INKEY$:IF IN$="" THEN530
ELSEIF ASC(IN$)<52 OR ASC(IN$)>
54 THEN530
540 HM=VAL(IN$)
550 GOSUB1200:CLS
560 IF R=3 THEN R1=RND(2) ELSE R

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1=R
570 PCLS:SCREEN1,1
579 REM***PICK THE NUMBERS*****
580 ON N GOTO590,600,610,620,630
,640,650,660,670
590 N1=8:N2=10:GOTO680
600 N1=10:N2=18:GOTO680
610 N1=12:N2=26:GOTO680
620 N1=15:N2=33:GOTO680
630 N1=17:N2=41:GOTO680
640 N1=19:N2=49:GOTO680
650 N1=22:N2=56:GOTO680
660 N1=24:N2=64:GOTO680
670 N1=25:N2=73
680 B=RND(HM)
690 IF R1=2 THEN770
700 FORX=1TO HM
710 C=RND(N2):C(X)=CN(C):IF X=1
THEN750
720 FORZ=X-1 TO1STEP-1
730 IF C(X)=C(Z) THEN Z=1:NEXTZ:
GOTO710
740 NEXTZ
750 NEXTX
760 C=RND(N1):C(B)=PN(C):GOTO840
770 FORX=1TO HM
780 C=RND(N1):C(X)=PN(C):IF X=1
THEN820
790 FORZ=X-1 TO1STEP-1
800 IF C(X)=C(Z) THEN Z=1:NEXTZ:
GOTO780
810 NEXTZ
820 NEXTX
830 C=RND(N2):C(B)=CN(C)
839 REM*****SET UP SCREEN*****
840 PCLS:Y2=0:PCOPY3TO2
850 DRAW"C8":LINE(0,0)-(255,14),
PSET,BF:IF R1=1 THEN C2$="PRIME"
:X1=47 ELSE C2$="COMPOSITE":X1=2
3
860 Y1=12:C1=5:C$="PICK THE "+C2
$:GOSUB170
870 Y1=35:FORX=1TO HM
880 IF HM=4 THEN X1=(X-1)*56+33
ELSE IF HM=5 THEN X1=(X-1)*46+25
ELSE X1=(X-1)*42+14
890 C$(X)=STR$(C(X)):C$(X)=RIGHT
$(C$(X),LEN(C$(X))-1):C$=C$(X):D
RAW"C6":LINE(X1-5,21)-(X1+24,39)
,PSET,B:IF LEN(C$(X))=1THEN X1=X
1+6
900 C1=8:GOSUB170:NEXTX
910 IF HM=4 THEN P=39 ELSE IF HM
=5 THEN P=31 ELSE P=20
920 FORX=1TO HM:D(X)=0:NEXTX:H=0
:B1=1
930 PUT(P,40)-(P+10,60),AR,PSET
939 REM*****GET AN ANSWER*****
940 IN$=INKEY$
950 IN$=INKEY$:IF IN$="" THENDRA
W"C5BM212,118;XCH$(40);":PLAYP2$
:DRAW"C6BM212,118;XCH$(40);":PLA
YP2$:GOTO950
960 IF IN$="H" THEN GOSUB280:GOT
O950
970 IF IN$=CHR$(8) OR IN$=CHR$(9
) OR IN$=CHR$(13) THEN PUT(P,40)
-(P+10,60),AQ,PSET ELSE950
980 IF IN$=CHR$(9) THEN1020 ELSE
IF IN$=CHR$(13) THEN1060

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990 IF HM=4 AND P=<39 THEN1050 E
LSE IF HM=4 THEN P=P-56:B1=B1-1:
GOTO1050
1000 IF HM=5 AND P=<31 THEN1050
ELSE IF HM=5 THEN P=P-46:B1=B1-1
:GOTO1050
1010 IF HM=6 AND P=<20 THEN1050
ELSE P=P-42:B1=B1-1:GOTO1050
1020 IF HM=4 AND P=>207 THEN1050
ELSE IF HM=4 THEN P=P+56:B1=B1+
1:GOTO1050
1030 IF HM=5 AND P=>215 THEN1050
ELSE IF HM=5 THEN P=P+46:B1=B1+
1:GOTO1050
1040 IF HM=6 AND P=>230 THEN1050
ELSE P=P+42:B1=B1+1
1050 PUT(P,40)-(P+10,60),AR,PSET
:GOTO950
1059 REM***EVALUATE ANSWER****
1060 IF HM=4 THEN P1=(B1-1)*56+3
3 ELSE IF HM=5 THEN P1=(B1-1)*46
+25 ELSE P1=(B1-1)*42+14
1070 IF B1<>B THEN1130
1080 FORX=1TO11:GET(P1-5,21)-(P1
+24,39),CA,G:PUT(P1-5,21)-(P1+24
,39),CA,NOT:NEXTX
1090 X1=0:Y1=75:Y2=14:C1=8:C$=RA
$(RND(4))+". "+C$(B)+" HAS ":IF
R1=1 THENC$=C$+"ONLY 2 FACTORS."
ELSE IF R1=2 THEN C$=C$+"MORE T
HAN 2 FACTORS."
1100 GOSUB170
1110 PLAYP1$:FORX=4TO8:PCOPYX TO
2:FORY=1TO30:NEXTY:NEXTX:PCOPY3
TO2:FORX=1TO1000:NEXTX:PCLS
1120 NU=NU+1:IF NU=10 THEN NU=0:
GOTO1170 ELSE560
1130 GET(P1-5,21)-(P1+24,39),CA,
G:PUT(P1-5,21)-(P1+24,39),CA,NOT
1140 X1=0:Y1=65:Y2=14:C1=8:C$="S
ORRY. "+C$(B1)+" HAS":IF R1=1 TH
EN C$=C$+" MORE THAN TWO FACTORS
." ELSE IF R1=2 THEN C$=C$+" ONL
Y TWO FACTORS."
1150 GOSUB170:PLAYP3$:LINE(0,51)
-(255,95),PRESET,BF:Y1=75:C$="TR
Y THAT AGAIN PLEASE.":GOSUB170:F
ORX=1TO1000:NEXTX:LINE(0,60)-(25
5,78),PRESET,BF
1160 PUT(P1-5,21)-(P1+24,39),CA,
PSET:GOTO930
1169 REM***GET NEXT USER*****
1170 PCLS:X1=0:Y1=101:Y2=14:C1=8
:C$="NEXT PLAYER. PRESS <ENTER>."
:GOSUB170:C1=7:C$="<E> TO END."
:GOSUB170:IN$=INKEY$
1180 IN$=INKEY$:IF IN$="" THEN11
80
1190 IF IN$=CHR$(13) THEN550 ELS
E IF IN$="E" THENCLS:END ELSE118
0
1199 REM*****EXPLANATION*****
1200 IF R=2 THEN1240 ELSE IF R=3
THENGOSUB1210:GOSUB1240:RETURN
1210 CLS:PRINT"PRIME NUMBERS HAV
E ONLY TWO FACTORS. FOR EXAM
PLE, 5 IS A PRIME NUMBER BECA
USE ITS ONLY FACTORS ARE 5 AND
1."
1220 PRINT:PRINT"ZERO AND ONE
ARE NOT PRIME NUMBERS BEC
AUSE THEY DO NOT HAVE2 FACTORS.

```

```

1230 PRINT:PRINT"THE PRIME NUMBE
RS LESS THAN 20 ARE :":PRINT"2
, 3, 5, 7, 11, 13, 17 AND 19":GO
SUB260:RETURN
1240 CLS:PRINT"COMPOSITE NUMBERS
HAVE MORE THAN TWO FACTORS. FOR
EXAMPLE, 8 HAS 1, 2, 4 AND 8 AS
FACTORS. THEREFORE, 8 IS A
COMPOSITE NUMBER."
1250 PRINT:PRINT"THE COMPOSITE N
UMBERS LESS THAN 20 ARE:":PRINT
:PRINT"4, 6, 8, 9, 10, 12, 14, 1
5, 16 AND 18.":GOSUB260:RETURN
1259 REM***PRIME NUMBERS*****
1260 DATA2,3,5,7,11,13,17,19,23,
29,31,37,41,43,47,53,59,61,67,71
,73,79,83,89,97
1269 REM***COMPOSITE NUMBERS***
1270 DATA4,6,8,9,10,12,14,15,16,
18,20,21,22,24,25,26,27,28,30,32
,33,34,35,36,38,39,40,42,44,45,4
6,48,49,50,51,52,54,55,56,57,58,
60,62,63,64,65,66,68,69,70,72
1280 DATA74,75,76,77,78,80,81,82
,84,85,86,87,88,90,91,92,93,94,9
5,96,98,99
1289 REM***CHARACTER DATA*****
1290 DATABR2,BR2UBU2U2BRBD5,BU5N
DBR3DBD4,BRUNLU3NLNURNURD3NLNRD
BR,BRUNLREHL2URNUR2BD4,BR3NUBL3U
E3VBL3DBD4BR3,BRHNFB2HEFGBD2REBD
,BU5BRRLGDB3BR2,BR2HU3EBRBD5,BRE

```

```

U3HBD5BR2,BRBUE3BD3NH3BDBR,BU3BR
2DNLNRDBDBR
1300 DATABRUNRDRNUDGBU2ER2,BRBU2
R2BD2,BRRULDBR2,BUBRREU2NL3NR2BU
2LBD5BR3,BRUH3ERFD3GLBR2,R2U5NLD
5R
1310 DATA NR3UEREU2LLGBD4BR3,BUF
REUHNLEUL3BD5BR3,BR3U5D3L3UE2RBD
5,BUFREUHL2U2R3BD5,BUNUFREUHLGU2
ERBD5BR,BU4UR3D2G3BR3,BUNUFREUHL
NGHERFGBD3BR,BRREU3HLGDFREBD3,BR
2UBU2UBD4BR
1320 DATABR2URD2GBU5URDLBD3BR,BR
2H2UE2BD5BR,ERBUNR2BU2R2BD3,BRE2
UH2BD5BR2,BR2UBUUREHL2BD5BR3,,U2
NR3U2ERFD4
1330 DATA U3NR2U2R2FGFDGL2BR3,BU
U3ERFBD3GLHBDDBR3,U5RF2DG2LBR3,NR
3U3NR2U2R3BD5,U3NR2U2R3BD5,BU03E
RBRBD3NLGDLHBDDBR3,U3NU2R3NU2D3,B
RU5BD5BR2,BUFEU4NRL2BD5BR3,U5D2R
E2G2F2D,NU5R3,U5F2NDE2D5,U5F3U3D
5
1340 DATABRHU3ERFD3GLBR2,U5R2FDG
L2BD2BR3,BU03ERFD3NHNFLHBDDBR3,U
5R2FGL2F3,BUFREUHL2UERFBD4
1350 DATA BRU5LR3BD5,NU5R3U5BD5,
BU5D3FDRUVEU3BD5,NU5E2NUF2NU5,UE2
H2BR3DGF2D,BU5D2FRD2NLU2EU2BD5,M
R3UE3UL3BD5BR3

```

## FOR THE GAMERS'

For those of you who are ripping your hair out trying to get past the gargoyle in Raaka Tu:

Once you have gone through the door next to the statue with the bow, if you read the description carefully, it will say that you are at the SOUTH END of a hall. Therefore, it must have a north end. After getting the candle the lamp, go to the room with the gargoyle, light the candle with the lamp, activate the gargoyle, drop the candle, leave the room and type WAIT ten (10) times. then return to the room and extinguish the candle.

If you can get to the chasm with the stream of lava in Trekboer, don't worry about the grating; you can't open it. The grate gets used on your way out. Also don't try crossing the bridge without the amulet.

For Bedlam: If you keep walking into walls, type PLUGH and you'll feel much better!

In Temple of Rom. Any treasures taken while the bat is on the screen gives double points.

For Black Sanctum, you'll find yourself in big trouble if you try to go in the monastery (via mirror) and don't have the robe. If trapped in the room where you can't do anything, the words on the note that the young woman is holding can get you free.

For Trekboer: NEVER drop the beaker. If you want to put it down, you must have the pillow and then drop the pillow, and then the beaker.

In Shenanigans, You can't get service in the bar without your shoes and shirt. And be sure to check your mail everyday. Your mailbox number should be the same as your door number.



# STRAIGHT LINE GRAPHS

EDUCATION

16K ECB

by Mal McLaughlan

**T**HIS SHORT tutorial, ideal for the earlier High School years, helps with the understanding of straight - line graphs. The aspect dealt with this time is the all - important slope of the graph, a key element in really coming to grips with what graphs are all about.

This leads on, in higher mathematics, to the rate of change of slope in Calculus.

But first let's get a clear understanding of straight-line graphs ...

## The Listing:

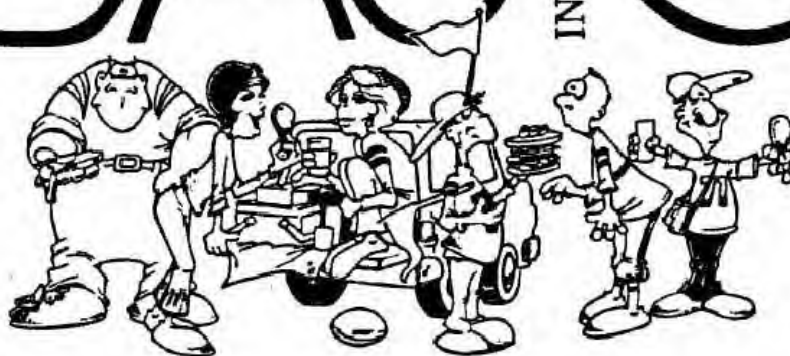
```
1 '*****GRAPH TUT*****
*****BY MAL MCLAUGHLAN*****
*****11 HUNTER ST., BOONAH Q*****
*****JUNE, 1987*****
2 GOTO 10
3 SAVE"265:3":END'2
4 '****A TUTORIAL FOR JUNIOR*****
*****HIGH SCHOOL CLASSES*****
*****straight line graphs*****
10 CLS
20 PRINT@5,"STRAIGHT-LINE G .PHS
";PRINT@64,"THIS PROGRAM 'OWS
HOW THE GRAPH OF Y=X VARIES AS TH
E COEFFICIENT OF X VARIES.
IT IS THIS COEFFICIENT THAT D
ETERMINES THE SLOPE OF THE GRAPH.
"
30 PRINT@235,"examples":PRINT@25
8,"equation          graph slope
"
40 PRINT@291,"Y=2X
2:1          Y=5X
5:1          Y=3X+2
3:1          Y=29X-36
29:1"
50 PRINT@453,"<any key to contin
ue)"
60 EXEC 44539
70 CLS0
```

```
80 FOR Y=4 TO 24 STEP 4
90 SET(X,Y,5):NEXT Y
100 X=6
110 FOR Y=0 TO 30
120 SET(X,Y,3):NEXT Y
130 Y=27
140 FOR X=0 TO 50
150 SET(X,Y,3):NEXT X
160 Y=28
170 FOR X=10 TO 50 STEP 6
180 SET(X,Y,5):NEXT X
190 'SET GRAPH
200 FOR X=7 TO 33
210 W=33-X
220 SET(X,W,4):NEXT X
230 'GRAPH Y=2X
240 FOR X=7 TO 20
250 W=40-2*X
260 SET(X,W,4):NEXT X
270 'SET GRAPH Y=0.5X
280 FOR X=8 TO 60
290 W=30-INT(.5*X)
300 SET(X,W,4):NEXT X
310 PRINT@6,"Y=2X";
320 PRINT@14,"Y=X";
330 PRINT@24,"Y=.5X";
340 PRINT@448," THE COEFFICIENT
OF X SHOWS THE";PRINT@480,"slope
(2:1,1:1,.5:1 ABOVE) ";
350 PRINT@309,"<any key>";
360 EXEC 44539
370 CLS0
380 PRINT@128," THE NEXT SHOWS Y
=X+C, WHERE C IS CUTTING POINT OF
Y AXIS, E.G. IF Y=X+3 THE Y AXIS
IS CUT AT +3."
390 PRINT@256," BECAUSE THE COEF
FICIENT OF X IS 1 IN ALL THESE,
THE SLOPE IS ALWAYS 1...AND S
O the lines are parallel..
"
400 PRINT@458,"<any key>";
410 EXEC 44539
420 CLS0
430 'SET AXES AGAIN
440 X=6
450 FOR Y=0 TO 31:SET(X,Y,3):NEXT Y
460 Y=27
470 FOR X=0 TO 55
480 SET(X,Y,3):NEXT X
```

```
490 'SET GRAPH Y=X(+0)
500 FOR X=7 TO 33
510 W=33-X
520 SET(X,W,4):NEXT X
530 'SET GRAPH Y=X+3
540 FOR X=7 TO 30
550 W=(33-3)-X
560 SET(X,W,4):NEXT X
570 'SET GRAPH Y=X+3
580 FOR X=7 TO 33
590 W=(33+3)-X
600 SET(X,W,4):NEXT X
610 PRINT@353,"+3";PRINT@418,"0
";
620 PRINT@482,"-3";
630 PRINT@40,"Y=X+3";
640 PRINT@16,"Y=X";
650 PRINT@60,"Y=X-3";
660 PRINT@256,"THE NUMBER ADDED
TO X GIVES THE Y INTERCEPT(+3,0,
-3 HERE) ";
670 PRINT@214,"<any key>";
680 EXEC 44539
690 'SET AXES AGAIN
700 CLS0
710 X=6
720 FOR Y=0 TO 31
730 SET(X,Y,3):NEXT Y
740 Y=27
750 FOR X=0 TO 50
760 SET(X,Y,3):NEXT X
770 'SET GRAPH Y=0.5X+3
780 FOR X=6 TO 50
790 W=20+INT(.5*(12-X))-3
800 IF W=0 GOTO 820
810 SET(X,W,4):NEXT X
820 PRINT@146,"Y=.5X+3";
830 PRINT@289,"+3";
840 PRINT@448,"THE ABOVE GRAPH C
UTS Y AXIS AT";PRINT@480,"+3, A
ND HAS SLOPE OF .5:1 ";
850 PRINT@342,"<any key>";
860 EXEC 44539
870 CLS
880 INPUT"DO YOU WANT ANOTHER RU
N THROUGH (Y/N)";Q$
890 IF Q$="Y" THEN 10 ELSE 900
900 CLS(7):PRINT@200,"THAT'S ALL
FOLKS!";
910 GOTO 910
@
```

# BEGINNER'S BASIC

BASIC ALL SYMBOLIC INSTRUCTION CODE  
PURPOSE



## TUTORIAL by Jim Rogers

**L**ET US START WITH a small hint. First of all it is a good idea to develop the habit of turning on your computer in a sequence.

Turn on the power, the TV, then the computer. In shutting down, do it in reverse order. Computer off, TV off, power off.

This has something to do with allowing the power to discharge but it will make your equipment last much longer.

When you first bring your new computer home and get it all set up and working as per the manual don't be afraid to play with it.

Just by pressing buttons and making lots of mistakes you will learn and you will become familiar with the keyboard and what it will do. One thing is sure, you can't do any harm.

You will find that there are two buttons at the back of the keyboard (or somewhere else on the machine. Check your manual)

One is the on/off switch and the other is the reset button.

If you use the on/off button everything in the memory is wiped out. If you use the reset button you will clear the screen of all but the cursor and the OK sign.

To check this type in LIST and you will find that the memory is intact and what was in the memory will be listed back on the screen.

When it was put together, the computer was taught and instructed to do certain things in a certain way and order and we will go into this as we go along.

Of all the languages which computers are capable of understanding, BASIC is probably the easiest for beginners like us to learn and understand as it is the one most home computers use and is more like our spoken language with just some simple words and symbols added.

About now you will want to get on with writing the first of your many programs invented and developed by yourself so that you can become a computer programmer.

First of all, you will find that, once having the cursor and the OK sign up on the screen, anything you type on the keyboard will immediately appear on the screen, but that is all.

It will just sit there and nothing else will happen. To make something happen you must give the computer a command that it will understand.

If you type in:

What is 29 + 56

... that will appear on the screen but nothing happens.

Now, let's try your first command:

PRINT 29 + 56

... and immediately you will get an answer: 85.

You have just used the computer as a calculator but in doing so remember that the mathematical signs are a little different.

"+" = ADD,  
"-" = minus,  
"\*" = multiply,  
"/" = divide.

Now we have learned that by using the command PRINT we can make the computer give us an answer to a problem.

If we want a phrase to be printed on the screen we use the PRINT command and the phrase in quote marks thus:

PRINT "GOOD MORNING, MY NAME IS CHARLIE".

Press ENTER and there it is on the screen. The enclosed statement is known as a STRING.

By pressing the ENTER key you have told the computer to retain the information you have keyed in in the memory.

Should you make a mistake in the typing of a command you will get a reply on the screen which says ?SN ERROR and you will have to retype that command.

So if you typed:

PRINT "Good Morning"

... you will have an ?SN ERROR in reply. Correct it to:

PRINT "Good Morning"

... and press ENTER and everything is right again.

There are two ways to clear all the bits and pieces you have so far accumulated in the memory. CLS and ENTER will only clear the screen but the on/off button will clear the memory.

After turning off, wait a short while before turning on again to allow the computer to discharge.

The easier way is to type NEW and ENTER. This will clear the



memory and should be used when changing from one program in the memory to another.

It is very good practice to key in printed programs. It, in itself, can be a good teacher but great care must be taken to copy them exactly as they are written. Leaving out a ":" or a ";" or a "\*" or a "," or a "+" can alter the whole program and prevent it from working.

Start with shorter programs first and check each line carefully after typing in.

You will notice that these lines are numbered, usually in multiples of 10. The reason for this that other lines may be added later if required.

We have covered two BASIC commands thus far, PRINT and CLS. Now a third one is INPUT and with this one we can write a small program. Try this:

```
10 PRINT "GOOD MORNING"
20 PRINT "WHO IS YOUR FRIEND?"
30 INPUT F$
40 PRINT "PLEASED TO MEET YOU"
; F$
```

Now type RUN and press ENTER and you will be asked who your friend is. Type in his name and again ENTER.

Remember to make a space between YOU and the quotes in line 40 so that YOU and the name do not run together.

Now LIST and ENTER and you will see your original LISTing appear on the screen.

Try CLS to clear the screen and LIST to bring it back on. Then press the reset button and bring the program back with LIST.

Now type RUN and the program will start over again.

Try this program with your own words, add some more to it, make some mistakes and then retype the lines correctly. To change or correct a line it is only necessary to retype it under the same line number at the bottom of the listing and you will find that it is automatically placed in the correct sequence.

Our list of BASIC commands is now:

PRINT, CLS, ENTER, RUN, INPUT and LIST.

If you have any queries or problems please ask. There are experts here to answer your questions and I don't mean me.

⊕

# PLAYER ONE

For those of you who are wondering, photos of your high scores are welcome, but they must be clear and the subject needs to fill the whole photo.

If you're into photography, this is the best way to obtain a photo of your high scores:

- \* You should take the photo in a dark room with only the TV or monitor on using a low shutter speed, tripod, and NO flash.

- \* I recommend a shutter speed of 1/8 of a sec or less. (The reason for this is that TV's flickers at high speeds, and if you take a photo at a high speed you will more than likely catch a flicker in with your shot, ie part of the screen is blank in your photo, whereas on a low speed the shutter will be open for a number frames to flick by on your TV.

This will ensure that your shot will have the whole screen, but this method is only effective on non-moving screens.

- \* If the screen flickers different frames by while the shutter is open, you'll end up with an overlay of all the different frames (better known as a blear).

~~~~~

I need some help in BLACK SANCTUM!! How do you get past the door that is nailed shut!!? And what is the organ used for? If anyone knows Please tell me!!

You all have work hard since this column started, to accumulate such a large list of extremely high scores. But many of the top scores have remained unchanged for some time.

To create a bit more competition and give other players a chance to get onto Player 1, we were thinking of clearing Player 1 and starting from scratch.

We would like to know your opinion on this idea, so please write in or drop us a line before December 10th and let us know what you think.

Michael.

Here's a letter sent in by Brian Joyce of Canberra.

Dear Michael,

I have the answer to "Dungeons of Daggorath"!

First I want to tell you that I have cleared the lot. When you start you have to get the Vulcan Ring first. On the second level, you get a Rime Ring.

Don't incant them until the third level. I suggest that before you go down to the second level, you kill the two 'blobs'.

Off one blob you get an Iron Sword, off the other you get a Vulcan Ring.

Also get a few spare torches, then go down. Remember, the more creatures you kill, the more powerful you get.

Save both rings to use on the wizard (the imaginary one). Both rings can be used three times. When you encounter the wizard, make him chase you into a long corridor. Get one of your rings and incant it.

Leave your sword in your hand - you might encounter other creatures.

When the wizard is in your room, use your ring, run down the other end of the corridor and wait for your heart to slow down (you might have to go for another run back to the other end!).

It takes five or six shots with both of the rings to kill the imaginary wizard.

In the book, it says that they think the real wizard lives below the level 3. That's correct. After you kill the imaginary wizard, you go to the forth level. The real wizard is on the fifth level. You win after you kill the him with a ring you get on the forth level.

And the rest, you clobber them with your sword. After you kill the real wizard, you go back to having a pine torch. There is a ring on the floor where the wizard was killed. Incant it, and the game ends.

⊕

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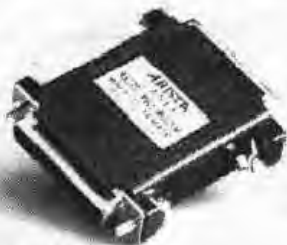
|        |                     |         |
|--------|---------------------|---------|
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| Z 2025        | Kean 18                                                         | \$69.95  |
| Z 2026        | Boulderdash                                                     | \$49.95  |
| Z 2027        | Boulderdash II                                                  | \$49.95  |
| Z 2028        | Conflict in Vietnam                                             | \$69.95  |
| Z 2029        | Dambusters                                                      | \$69.95  |
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| Item #    | Description                             | Price   |
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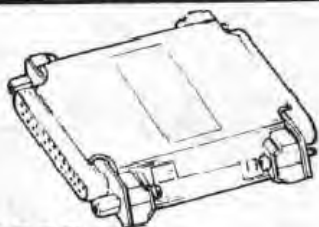
**RS232C  
NULL  
MODEM  
ADAPTOR** **\$1335**



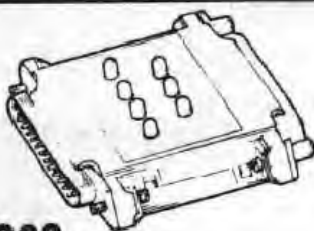
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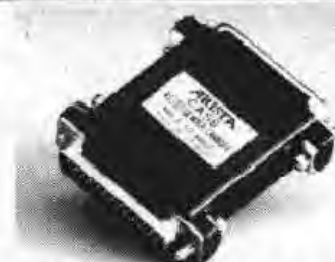
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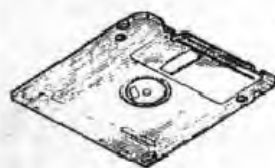
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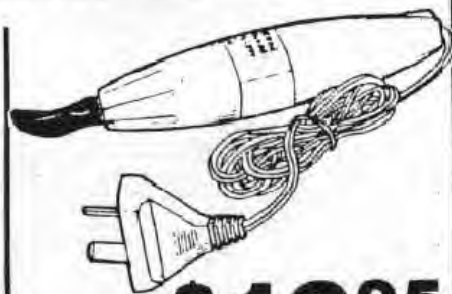


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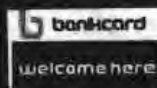
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# FOOTY JUMPERS

by David Dyson

CoCo 3  
GRAPHICS



**F**OOTY JUMPER: SINCE Joy Wallace did "Footy Fever", I did something like that.

This program draws all the 14 teams in the league jumpers, using Joy's Palettes she used in her program.

Enjoy!

## The Listing:

```
0 GOTO 10
1 '***FOOTY JUMPERS***'
2 '*(C) 1987**'
3 SAVE"308B:3":END'6
10 WIDTH40
20 CLS RND(8)
22 POKE65497,0
25 PALETTEGB
26 ON BRK GOTO 380
30 PRINT"***** ***** *****"
  *  *
40 PRINT" *  *  *  *  *
  *  *
50 PRINT"*** *  *  *  *
  *****
60 PRINT" *  *  *  *  *
  *  "
70 PRINT" *  ***** ***** *
  *
80 LOCATE0,7
100 PRINT" *  *  *  *  *
*** ***** *****
110 PRINT" *  *  *  *  *
  *  *  *
120 PRINT" *  *  *  *  *
  *  *  *  *
130 PRINT" *  *  *  *  *
*** *  *****
140 PRINT" *  *  *  *  *
  *  *  *  *
```

```
150 PRINT" *  ***** *  *
  **** ** *"
160 PRINT:PRINT" BY DAVID N.L.
DYSON ":PRINT" & ADAM R. DYS
ON":PRINT" (C) 1987"
170 PRINT" PRESS ANY KEY TO
START"
180 IS=INKEY$:IFIS="" THEN 180
185 PALETTEGB:PALETTE2,11:PALET
TE0,63:PALETTE9,29:PALETTE14,7:P
ALETTE10,34:PALETTE12,8:PALETTE6
,32:PALETTE5,29
186 GOSUB 400
200 'EAGLES
201 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
202 HDRAW"BM88,72;M+4,+8M+2,+12M
-2,+8BM104,72M+8,+18M+2,+4D16;M-
1,+4M-3,+12M-4,+6BM184,72M-4,+12
D12BM168,72M-8,+20D20M+4,+12M+2,
+6"
203 HDRAW"BM116,120;M+8,-12M+12,
-10M+8,-2R4M+4,+1M+2,+4M-2,+8M-1
,-4L4Q4D7F4L16M+12,-12"
204 HDRAW"BM132,120M+12,-24BM116
,120R16BM136,98M+4,+43M136,98M+2
,+10
205 HPAINT(136,136),1,8:HPAINT(2
00,75),1,8:HPAINT(64,80),1,8:HPA
INT(172,95),12,8:HPAINT(96,95),1
2,8:HPAINT(148,104),1,8:HPAINT(1
32,108),12,8:HPAINT(140,116),12,
8:HPAINT(140,101),12,8
206 HPAINT(236,80),12,8:HPAINT(3
6,76),12,8:HPAINT(116,80),12,8:H
PAINT(156,80),12,8
207 HPRINT(10,23),"EALGES JUMPER
"
208 IS=INKEY$:IFIS="" THEN 208
210 'BEARS
211 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350:HPAINT(136,116),6,8
212 HDRAW"BM68,72;D16R4U16R4D16R
4U16R8D16BM208,72;D16L4U16L4D16L
```

```
4U16L8D16BM92,96;R88
214 HDRAW"BM136,96M+8,+16L16M+8,
-16BM128,114M125,118M132,118D2M1
24,120M-1,+4R8E4U2M132,114M128,1
14BM134,115R6M+4,+1D6;M140,124;L
8BM136,120R4U2L4"
215 HDRAW"BM123,124M-3,+4R8F1D2G
1L8M-1,+4R20U8M-16,-4"
216 HDRAW"BM134,126;R14F4D4G2L12
BM140,132R4U2L4"
217 HPAINT(148,104),1,8:HPAINT(2
12,80),1,8:HPAINT(56,80),1,8:HPA
INT(201,80),1,8:HPAINT(194,80),1
,8:HPAINT(84,80),1,8:HPAINT(74,8
0),1,8
218 HPAINT(36,80),6,8:HPAINT(112
,76),1,8:HPAINT(156,80),1,8:HPAI
NT(232,80),6,8:HPRINT(10,23),"BR
ISBANE BEARS JUMPER"
219 IS=INKEY$:IFIS="" THEN 219
220 'GEE LONG
221 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350:HDRAW"BM48,72D16R8U16R8D16R
8U16R8D16R8U16;BM184,72D16R8U16R
8D16R8U16R8D16R8U16;BM92,96R90;B
M178,104L84;BM98,112R76BM171,120
;L70;BM104,128R64;BM164,136L56;B
M112,144R50"
222 FORD=1TO44STEP16:HPAINT(52+D
,80),12,8:HPAINT(188+D,80),12,8:
NEXTD
223 FOR D=1TO48STEP16:HPAINT(136
,100+D),12,8:NEXT
224 HPAINT(136,146),12,8:HPAINT(
36,80),12,8:HPAINT(112,76),12,8:
HPAINT(156,80),12,8:HPAINT(236,8
0),12,8:HPRINT(10,24),"GEE LONGS
JUMPER"
225 IS=INKEY$:IFIS="" THEN 225
230 'RICHMOND
231 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
232 HDRAW"BM92,96M140,148R20M112
,96L20":HPAINT(136,100),8,8:HPAI
```



```

NT(120,136),8,8:HPAINT(40,80),1,
8:HPAINT(112,76),1,8:HPAINT(160,
76),1,8:HPAINT(236,76),1,8
233 HPAINT(108,104),1,8
234 HPRINT(10,20),"RICHMONDS JUMP
ER"
235 IS=INKEY$:IFIS="" THEN 235
236 ' ESSENDON
237 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350:HDRAW"BM92,96M140,148R20M11
2,96L20":HPAINT(136,100),8,8:HPA
INT(120,136),8,8:HPAINT(40,80),6
,8:HPAINT(112,76),6,8:HPAINT(160
,76),6,8:HPAINT(236,80),6,8:HPAI
NT(116,116),6,8
238 HPRINT(10,23),"ESSENDONS JUM
PER"
239 IS=INKEY$:IF IS="" THEN 239
240 GOTO250
243 FORD=44TO84STEP8:HLIN(0,72)
-(0,88),PSET:NEXT:FORD=188TO228S
TEP8:HLIN(0,72)-(0,88),PSET:NEX
T
244 HDRAW"BM92,96:M180,96L8D20U2
0L8D40U40L8D52U52:M92,96R8D20U20
R8D40U40"
245 FORD=116TO156STEP8:HLIN(0,9
6)-(0,148),PSET:NEXT
246 FOR D=1TO40STEP16:HPAINT(48+
D,80),R,8:HPAINT(192+D,80),R,8:N
EXT
247 FOR S=96TO176STEP16:HPAINT(S
,100),R,8:NEXT:HPAINT(112,76),R,
8:HPAINT(160,76),R,8
248 RETURN
249 ' NTH MELBORNE
250 HSCREEN2:HCLS11:HCOLOR8
251 R=9
252 GOSUB350
253 GOSUB243
254 HPRINT(10,24),"NTH. MELBOURN
ES JUMPER"
255 IS=INKEY$:IFIS="" THEN 255
256 HSCREEN2:HCLS11:HCOLOR8:R=8:
GOSUB350:GOSUB243
257 HPRINT(10,24),"COLLINGWOODS
JUMPER"
258 IS=INKEY$:IFIS="" THEN 258
260 HSCREEN2:HCLS11:
261 GOSUB350:R=10:GOSUB243:FORD=
170TO28STEP16:HPAINT(56+D,80),1,8:
HPAINT(220-D,80),1,8:NEXT:FORD=1
04TO176STEP16:HPAINT(0,100),1,8:
NEXT:HPAINT(36,80),1,8:HPAINT(23
2,80),1,8
262 HPRINT(10,24),"HAWTHORNS JUM
PER"
263 IS=INKEY$:IFIS="" THEN 263
264 ' CARLTON
265 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
266 HCIRCLE(132,120),20,8,1,.15,
.90:HCIRCLE(132,120),18,8,1,.15,
.90:HCIRCLE(132,120),9,8,1,.15,.
90:HCIRCLE(132,120),7,8,1,.15,.9
0
267 HDRAW"BM130,120U24R8D2L6D20R
4D2L4D22L2U24"
268 HPAINT(160,112),12,8:HPAINT(
120,116),12,8:HPAINT(128,120),12
,8:HPAINT(112,76),12,8:HPAINT(16

```

```

0,76),12,8
269 HPRINT(10,24),"CARLTONS JUMP
ER"
270 IS=INKEY$:IFIS="" THEN 270
271 ' FITZROY
272 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
273 HDRAW"BM92,96C8;R88":HPAINT(
132,116),1,8
274 HCIRCLE(132,120),20,8,1,.15,
.90:HCIRCLE(132,120),17,8,1,.15,
.90:HDRAW"BM148,108C8;G2;BM142,1
32F2":FS="U24R8D2L6D20R4D2L4D22L
2U24"
275 HDRAW"BM124,120C8;"+FS+"BM13
6,120"+FS
276 HPAINT(108,100),6,8:HPAINT(1
34,98),6,8:HPAINT(132,120),6,8:H
PAINT(120,120),6,8
277 HPAINT(168,88),12,8:HPAINT(2
32,80),6,8:HPAINT(36,80),6,8:HPA
INT(112,76),6,8:HPAINT(160,76),6
,8
279 HPRINT(10,24),"FITZROYS JUMP
ER"
280 IS=INKEY$:IFIS="" THEN 280
281 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
282 HDRAW"BM96,108C8;M176,108;BM
174,110;M98,110"
283 HDRAW"BM106,132;M166,132BM10
6,134;M166,134":HPAINT(96,84),12
,8:HPAINT(132,144),12,8:HPAINT(1
28,128),6,8:HPAINT(112,76),6,8:H
PAINT(160,76),6,8:HPAINT(36,80),
6,8:HPAINT(232,80),6,8:HDRAW"BM6
0,72D16R2U16R16D16R2U16BM212,72D
16L2U16L16D16L2U16"
284 HPAINT(61,80),11,8:HPAINT(79
,80),11,8:HPAINT(64,80),6,8:HPAI
NT(211,80),11,8:HPAINT(193,80),1
1,8:HPAINT(205,80),6,8:HPRINT(10
,24),"FOOTSCRATS JUMPER"
285 IS=INKEY$:IFIS="" THEN 285
286 ' ST KILDA
287 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
288 HDRAW"BM92,96;R88":HLIN(120
,96)-(152,148),PSET,B:HPAINT(104
,100),6,8:HPAINT(164,100),8,8:HP
AINT(52,80),8,8
289 HPRINT(10,24),"ST. KILDAS JU
MPER"
290 IS=INKEY$:IFIS="" THEN 290
291 ' SYDNEY
292 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
293 HDRAW"BM92,72M125,110U8;M132
,110U3M130,102M138,110M140,104M1
36,100M142,104M144,108M144,108M1
48,104R2M180,72"
294 HPAINT(124,96),3,8:HPAINT(36
,80),3,8:HPAINT(232,80),3,8
295 HPRINT(10,24),"SYDNEYS JUMPE
R"
296 IS=INKEY$:IFIS="" THEN 296
297 ' MELBOURNE
298 HSCREEN2:HCLS11:HCOLOR8:GOSU
B350
299 HDRAW"BM104,72M136,120M168,7
2":HPAINT(136,100),6,8:HPAINT(13

```

```

6,136),12,8:HPAINT(36,80),6,8:HP
AINT(232,80),5,8:HPAINT(112,76),
12,8:HPAINT(150,76),12,8
300 HPRINT(10,24),"MELBOURNES JU
MPER"
310 IS=INKEY$:IFIS="" THEN 310
320 HSCREEN2:HCLS11:HCOLOR8:FORD
=1TO100:HPRINT(15,15),"THE END "
:PALETTE8,RND(64):NEXTD:END
340 ' JUMPER
349 GOTO349
350 HDRAW"BM32,72;R12D16L12U16R8
4F20E20R84D16L12U16D16L44;M160,1
48L48;M88,88L44"
360 HDRAW"BM114,72;F20E20R12G16H
6":HDRAW"BM104,72;F16E6"
370 HDRAW"BM98,84;M+4,-2M+4,+2D4
G4H4U4"
375 RETURN
380 PALETTE8:POKE65496,0:WIDTH
32:END
400 HSCREEN2:HCLS12:HCOLOR11
410 OS="E8R28G8L28D36R28U36E8D36
G8U28B8L12D20R12U20L8D16G4E4R8"
420 HDRAW"BM32,8E8R24G8L24D36R12
E4U6L4D12U12R8E4U8G4E4L12D4R8D8L
8B8U8R12U8E8D8G8B8M68,8"+OS
425 HDRAW"BM108,8"+OS
430 HDRAW"BM156,8E8R36G8L36D8R16
D28R8U28R12U8E8D8G8L4D20G8BM204,
8E8R8G8L8D20R12D16R8U16R12U20L8D
12L16U12E8D12G8E8R8U4E8R8G8L8R8E
8D20G8L4D8G8"
440 HDRAW"BM44,56E8R8G8L8D20G4U1
2G8F4R4L4H4L12E8R12G8L12D8F12R12
E16U32G8D32"
450 HDRAW"BM58,56E8R8G8L8D40R32U
40L8E8R8G8E8D40G8L16B8U8U40G8D32R
16U32BM112,56E8R8G8L8D40R8U20F8E
8D20R8U40E8L8G8R8L8G8H8E8D16BM15
2,48D40G8L8U20G8D4G8"
460 HDRAW"BM156,56E8R28G8L28D40R
8U20R20U20L28B8R12D4L12U4R4G4BD
8R8D12G8BM192,48D20G8"
470 HDRAW"BM196,56E8R28G8L28D40R
28U8L20U8R8U8L8U8R20U8E8D8G8L4G8
E8D8G8R20G8E8D8G8"
480 HDRAW"BM236,56;E8R32G8L32D40
R8U20R8D12G8U20R8M+8,+20R8U16H4L
4M+8,+20BM236,56R32E8D20G8U20D20
L4R4B8U4L16D4E4G4R16"
490 HDRAW"BM12,108R28D20G8L12H8U
20"
500 HPRINT(2,12),"VFL"
510 HCIRCLE(26,116),5,6,2
520 HPAINT(26,116),6,6:HDRAW"BM1
6,120R4F6E6E4G10H10"
530 HPAINT(26,128),11,11
540 HPRINT(2,17),"Footy Jumper 1
s a programme that draws":HPRINT
(2,18),"all the fourteen football
teams":HPRINT(2,19),"All so th
e new jumper for":HPRINT(2,20),"
the sydney swans"
550 HPRINT(2,21),"PRESS ANY
KEY"
560 IF INKEY$="" THEN 560
570 RETURN
4000 GOTO4000

```

# WRITTEN 123456789 WORKSHEET

by Bob Horne

32K + printer  
EDUCATION

**T**HIS PROGRAM prints out a worksheet of numbers in word form. Allowance is made for 4, 5 or 6 digit numbers.

Most numbers generated will have a zero somewhere in them. This was done so as to leave room for the answer at the end of the line when doing 6-digit numbers.

The printer codes are for a Tandy DMP-105 and are documented with REM's throughout the program. If your printer will not print block graphics, delete line 60 and delete the "GOSUB520" in line 430.

This sub-routine prints a pattern at the top and bottom of the sheet and is not critical for the rest of the program.

## The Listing:

```
1 REM*****
2 REM*   WRITTEN NUMBERS   *
3 REM*   WORK SHEET       *
4 REM*   BY BOB HORNE     *
5 REM*****
6 GOTO10
7 SAVE"309E:3":END'2
10 DIMUS(19),TS(9),AN(32)
```

```
20 FORX=1TO19:READUS(X):NEXTX:FO
RX=1TO9:READTS(X):NEXT
30 CLS:PRINT@160,"HOW MANY DIGIT
S IN THE NUMBERS?","", "UP TO 4 DI
GITS.", "UP TO 5 DIGITS.", "UP T
O 6 DIGITS.", "TYPE A NUMBER 4 -
6 ":IN$=INKEY$
40 IN$=INKEY$:IF IN$="" THEN40 R
ELSE IF IN$<"4" OR IN$>"6" THEN40
50 IN=VAL(IN$):DI=6-VAL(IN$):CLS
:PRINT@256,"NOW PRINTING NUMBERS
." :Q=20
60 GOSUB520
68 REM * PRINTER CODES *
69 REM* CHR$(27);CHR$(14); SET
DOUBLE WIDTH * CHR$(27);CHR$(15)
TURN IT OFF * CHR$(15) TURN ON
UNDER- LINE * CHR$(14) TURN OFF
UNDERLINE *
70 PRINT#-2,CHR$(27);CHR$(14); "N
ANE";CHR$(27);CHR$(15);:PRINT#-2
,CHR$(15);STRING$(30,32);CHR$(14
);
80 N=RND(-TIMER):SH=TIMER
90 PRINT#-2,"SHEET NUMBER"SH:PRI
NT#-2,"Write these numbers in di
gital form :-":PRINT#-2
100 FORZ=1TO Q
110 FORX=1TO5:N=RND(10)-1:N$=STR
$(N):N$=RIGHT$(N$,1):N$(X)=N$:NE
XTX:N=RND(9):N$=STR$(N):N$(6)=RI
GHT$(N$,1)
120 FORTI=0TO DI:N$(TI)="0":NEXT
TI:TI=RND(IN-1):N$(TI)="0"
130 WN$="":AN$="":FORX=1TO6:AN$=
AT$+N$(X):NEXTX
139 REM*****1ST DIGIT*****
140 IF N$(1)="0" THEN160
150 WN$=WN$+US$(VAL(N$(1)))+ " hun
dred and "
159 REM*****2ND DIGIT*****
160 IF N$(1)="0" AND N$(2)="0" T
HEN220
165 IF N$(2)="0" AND N$(3)="0" T
HEN WN$=LEFT$(WN$,LEN(WN$)-5):GO
TO220
170 IF N$(2)="0" THEN220
180 IF N$(2)="1" THEN D$=N$(2)+N
$(3):WN$=WN$+US$(VAL(D$)):GOTO250
190 WN$=WN$+TS$(VAL(N$(2)))
200 IF N$(3)="0" THEN220
210 WN$=WN$+"-"
219 REM*****3RD DIGIT*****
220 A=0:FORX=1TO3:IF N$(X)="0" T
HENA=A+1:NEXTX ELSE NEXTX
230 IF A=3 THEN270
240 WN$=WN$+US$(VAL(N$(3)))
250 WN$=WN$+" thousand"
260 IF N$(4)="0" THEN WN$=WN$+"
and ":GOTO310 ELSE WN$=WN$+" "
269 REM*****4TH DIGIT*****
270 A=0:FORX=1TO4:IF N$(X)="0" T
HEN A=A+1:NEXTX ELSE NEXTX
280 IF A=4 THEN320
290 IF N$(4)="0" THEN320
300 WN$=WN$+US$(VAL(N$(4)))+ " hun
dred and "
310 IF N$(5)="0" THEN380
319 REM*****5TH DIGIT*****
320 A=0:FORX=1TO5:IF N$(X)="0" T
HEN A=A+1:NEXTX ELSE NEXTX
```

```
330 IF A=5 THEN380
340 IF N$(5)="1" THEN D$=N$(5)+N
$(6):WN$=WN$+US$(VAL(D$)):GOTO390
350 WN$=WN$+TS$(VAL(N$(5)))
360 IF N$(6)="0" THEN390
370 WN$=WN$+"-"
379 REM*****6TH DIGIT*****
380 WN$=WN$+US$(VAL(N$(6)))
390 AS=LEFT$(WN$,1):A=ASC(AS)-32
:MID$(WN$,1,1)=CHR$(A):WN$=WN$+"
." :AN(Z)=VAL(AN$)
400 PRINT#-2,USING"##";Z;:PRINT
#-2," ";WN$;
410 PO=80-POS(-2):IF PO>12 THEN
PO=12
420 PRINT#-2,CHR$(15);STRING$(PO
,32);CHR$(14);:PRINT#-2:PRINT#-2
430 NEXTZ:GOSUB520
440 CLS:PRINT@256,"NOW PRINTING
ANSWERS"
450 PRINT#-2:PRINT#-2,"ANSWER SH
ET"SH
460 FORZ=1TO Q STEP4:PRINT#-2,TAB
(1);:PRINT#-2,USING"##";Z;:PRI
NT#-2," ";:PRINT#-2,USING"#####"
;AN(Z);
470 PRINT#-2,TAB(20);:PRINT#-2,U
SING"##";Z+1;:PRINT#-2," ";:PRI
NT#-2,USING"#####" ;AN(Z+1);
480 PRINT#-2,TAB(40);:PRINT#-2,U
SING"##";Z+2;:PRINT#-2," ";:PRI
NT#-2,USING"#####" ;AN(Z+2);
490 PRINT#-2,TAB(60);:PRINT#-2,U
SING"##";Z+3;:PRINT#-2," ";:PRI
NT#-2,USING"#####" ;AN(Z+3);NEXT
Z
500 CLS:PRINT@256,"RUN AGAIN <Y/
N>":IN$=INKEY$
510 IN$=INKEY$:IF IN$="" THEN510
ELSE IF IN$="Y" THEN RUN ELSE I
F IN$="N" THEN END ELSE510
519 REM***CHR$(27);CHR$(28) TURN
ON BLOCK PRINTING MODE***
520 PRINT#-2,CHR$(27);CHR$(28);
530 FORX=1TO8:PRINT#-2,CHR$(235)
;CHR$(236);CHR$(234);CHR$(231);C
HR$(233);CHR$(235);CHR$(231);CHR
$(231);CHR$(231);CHR$(233);:NEXT
X:PRINT#-2
540 FORX=1TO8:PRINT#-2,CHR$(233)
;CHR$(231);CHR$(226);CHR$(225);C
HR$(233);CHR$(233);CHR$(236);CHR
$(234);CHR$(225);CHR$(233);:NEXT
X:PRINT#-2
550 FORX=1TO8:PRINT#-2,CHR$(231)
;CHR$(231);CHR$(231);CHR$(231);C
HR$(225);CHR$(231);CHR$(231);CHR
$(226);CHR$(231);CHR$(225);:NEXT
X:PRINT#-2:PRINT#-2,CHR$(27);CHR
$(54);
559 REM***CHR$(27);CHR$(54) TURN
OFF BLOCK PRINTING MODE***
560 PRINT#-2:RETURN
570 DATAone, two, three, four, five,
six, seven, eight, nine, ten, eleven,
twelve, thirteen, fourteen, fifteen
, sixteen, seventeen, eighteen, nine
teen580 DATA, twenty, thirty, forty
, fifty, sixty, seventy, eighty, nine
ty
```





# BIKE SAFETY

By Nicholas Fuller

EDUCATION  
COCO 3 + JOYSTICK

**B**IKE SAFETY WAS a program I found inspiration for after escaping, without injury, when I had a nasty accident with a Jaguar (the bike was a write off).

There have been a few programs written with the aim of teaching children to recognize road signs for the CoCo 2, but this program, utilising the full 128K of the CoCo 3, goes much further than this.

Written in Basic, "Bike Safety" is designed not to only make people aware of the rules of the road, etc, but to educate them on the different parts of the bike, how they function, and what purpose they fulfil. It attempts to do this using the superior graphics ability of the computer, presented in an attractive manner.

## About The Program

First of all, let me advise you not to press the reset button when operating the program - the program will crash!

After you've typed the program in (and have saved it to tape or disk-ed.), you are presented with a title page where you enter your name.

After this, you advance to see a traffic light. When it turns green you are allowed to enter the main menu.

In the main menu, you have two options - 1 to quit or 2 to start again.

Pressing the button on the joystick when the bike reaches the red sign will make your selection.

To start again, move the joystick to the centre or forward position.

If you decide to start again you will find yourself in a garage with the task of putting together a bicycle - it is a good idea to have a pen and paper handy to write down the position of the letters on the screen.

If you successfully construct the bike your status report is given and you advance to screen two.

Screen two presents you with a menu of 10 items, each one based on a different lecture.

Section three is an adventure called, "Dangerous Riding", which emphasises what you have learned in the a game - which is followed by the last part of the program - yes, that's right, a test!

In this section, enter your own questions and add your own printout routine.

I hope you enjoy this program (my first), and are able to learn something from it. It would be particularly useful for teachers and parents or anyone wanting to learn some of the

techniques I have incorporated in this program.

Enough writing - let's get busy and type it in!

Ed's note: tpe in PMODE0:PCLEAR1 before attempting to do anything with this program - it is about 22K long. Alternatively, you could always get this months Softgold on tape.

## The Listing:

```
0 GOTO20
1 '***** BIKE SAFETY *****
  **** NICHOLAS FULLER *****
3 SAVE"316:3":END'2
20 GOTO 40
30 POKE65496,0:END
40 ON BRK GOTO 60
50 GOTO 70
60 CLS2:PRINT"STOP CHEATING !!!":
  AS=INKEY$:IF AS="" THEN 60 ELSE8
  0
70 HBUFF1,687:HBUFF2,687
80 GOTO 120
90 PLAY"T255V1501":FORA=1TO15:PL
  AY"CDCDCDCDCDCDCDCDCV-":NEXTA
  :PLAY"T25502V1":FORZ=1 TO 30:PLA
  Y"GFDGCGFEDGCGFEDCFV+":NEXTZ:RETU
  RN
100 FORT=1TO640:NEXTT:SOUND1,1:R
  ETURN
110 LPOKE516158,RND(63):POKE6549
  7,0
120 PALETTE CMP
130 WIDTH40:CLS2:LOCATE12,5:ATTR
```

```

2,4,B,U:PRINT"***BIKE SAFETY***
":ATTR3,1:PRINT:LOCATE6,15:ATTR
3,2:PRINT"Written By Nicholas F
uller";:LOCATE13,17:ATTR 5,1:LOC
ATE2,20:PRINT"An Educational Gam
e on";:ATTR 4,5,U:PRINT"ROAD SAF
ETY!";:ATTR 3,1:PRINT:PRINT
140 GOSUB 90:PALETTE15,33:ATTR 7
,1:INPUT"ENTER YOUR NAME TO CONT
INUE";A$
150 FOR Y=1 TO 63:PALETTE1,RND(63):
PALETTE5,RND(63):PALETTE8,RND(63
):PALETTE11,RND(63):PALETTE2,RND
(63):PALETTE4,RND(63):PALETTE7,R
ND(63):PALETTE15,RND(63):PALETTE
0,RND(63):PALETTE13,RND(30):PALE
TTE12,RND(30):LPOKE516158,RND(63
):F=F+1:IF F=40 THEN 170:NEXT Y
160 GOTO 150
170 ATTR4,2:LOCATE0,22:PRINT"PRE
SS ANY KEY TO CONTINUE":IS=INKEY
$
180 IS=INKEY$:IF IS="" THEN 180 EL
SE 190
190 HSCREEN 2:PALETTE CMP:PALETT
E 0,53:HCLS1:HCOLDR8,8
200 HLINE(0,100)-(320,100),PSET
210 HDRAW"BM230,19;C4E10R30G10E1
0D81G10"
220 HLINE(230,20)-(260,100),PSET
,B:HLIN(229,19)-(261,100),PSET,
B:PALETTE11,43:HPAINT(232,21),11
,4:HCIRCLE(245,35),12,4:HPAINT(2
45,35),3,4:GOSUB100:HCIRCLE(245,
60),12,4:PALETTE5,50:HPAINT(245,
65),5,4:GOSUB100:HCIRCLE(245,85)
,12,4:PALETTE14,18
230 HPAINT(245,86),14,4
240 PALETTE 5,50:HPAINT(245,65),
5,4:GOSUB100:HCIRCLE(245,85),12,
4:PALETTE 14,18:HPAINT(245,86),1
4,4
250 HPRINT(20,05),"STOP"
260 PALETTE 15,61:HDRAW"BM230,19
;C4E10R31G10E10D81G10":HPAINT(23
5,16),11,4:HPAINT(265,24),11,4:H
DRAW"BM245,100;C4D70R10U70D70E5U
65":HPAINT(246,101),15,4:HPAINT(
258,109),15,4
270 FOR T=100 TO 195 STEP 15:A=0:B=3
20:HLIN(A,T)-(B,T),PSET:NEXTT:F
ORE=1 TO 320 STEP 25:G=G+20:H=100:
X=192:HLIN(G,H)-(E,X),PSET:NEXT
E:HPAINT(0,0),RND(15),4
280 HPRINT(5,0),"***WELCOME TO B
IKE SAFETY***":HPRINT(5,1),"*A$
290 PALETTE4,56:PALETTE4,32:PALE
TTE4,3:PALETTE4,56
300 HPRINT(20,07),"READY":GOSUB1
00:HPRINT(20,09),"GO"
310 FOR R=1 TO 15:A=RND(63):PALETT
E1,A:PALETTE0,RND(63):FOR T=1 TO 1
00:NEXTT:NEXT R
320 GOTO 340
330 HBUFF1,687:HBUFF2,687
340 HSCREEN2:PALETTE RGB:HCOLOR4,
1
350 PALETTE 0,0
360 HLINE(0,50)-(50,45),PSET:HLI
NE-(100,55),PSET:HLIN(192,50),
PSET:HLIN(197,40),PSET:HLIN(1

```

```

230,56),PSET:HLIN(270,35),PSET
:HLIN(320,50),PSET
370 FOR T=1 TO 40:S=RND(320):R=RN
D(35):HSET(S,R,4):A=RND(45):B=RN
D(280):HSET(B,1,4):HSET(S,A,4):H
SET(S,R,4):NEXTT
380 HLINE(0,125)-(320,125),PSET:
PALETTE 9,43:HPAINT(5,115),9,4
390 PALETTE0,0
400 HCIRCLE(30,150),20,13:HCIRCL
E(30,150),19,13:PALETTE 13,16:HC
IRCLE(100,150),20,13:HCIRCLE(100
,150),19,13
410 HLINE(30,150)-(35,120),PSET:
HLIN(90,120),PSET:HDRAW"BM100,
150;H5U25":HLIN(60,155),PSET:H
LINE(30,150),PSET:HLIN(60,155)
-(35,120),PSET:HCIRCLE(30,150),4
,5:HCIRCLE(30,150),3,5
420 F$="E5L2R4L2G10L2P4":HDRAW"B
M60,155;C4"+F$:HDRAW"BM95,120;U1
0":HCIRCLE(95,105),10,13,.5,75,
.25:HDRAW"BM35,120;U1E7L15D7R10L
1D1":HPAINT(30,115),3,4:HCIRCLE(
60,155),3,6:HCIRCLE(60,155),2,4:
HLIN(30,140)-(60,153),PSET:HLIN
E(60,157)-(30,152),PSET
430 HCIRCLE(100,150),3,5
440 POKE65497,0
450 GOTO 470
460 PALETTE1,50:HDRAW"BM95,115;C
1E30D60H30":HPAINT(110,120),1,1
:PALETTE1,0:HCIRCLE(105,115),7,3
,1,.25,.75:HDRAW"BM105,115;C3;U7
D14":HPAINT(104,115),3,3:RETURN
470 GOTO 490
480 FOR T=1 TO 250:NEXTT:RETURN
490 GOSUB480:HDRAW"BM60,155;C4;E
5;C0;L2R4L2":GOSUB460:HDRAW"BM60
,155;C0G5L2R4":B$="U5L2R4L2D10L2
R4":HDRAW"BM60,155;C4"+B$:GOSUB4
80:GOSUB460:GOSUB510:HDRAW"BM60,
155;C0"+B$:C$="H5L2R4L2F10L2R4L2
H5":HDRAW"BM60,155;C9"+C$:GOSUB4
80:HDRAW"BM60,155;C0"+C$
500 D$="L7R14L5":HDRAW"BM60,155;
C4"+D$:GOSUB480:GOSUB460:HDRAW"B
M60,155;C0"+D$:GOSUB460:GOTO 420
510 HGET(292,55)-(316,100),1:J$
="R8F8D8G8L8H8U8E8G8D8F8R2D20R4U
2C"
520 HPRINT(15,0),"B I K E S A F
E T Y":HCOLOREND(15),3:HPRINT(1
5,2),"Menu":HPRINT(15,4),"1-QUIT
":HPRINT(15,5),"2-START AGAIN"
530 GOTO 550
540 HLINE(200,10)-(202,8),PSET,B
F:RETURN
550 GOSUB580:GOTO 570
560 FOR T=1 TO 250:NEXTT:RETURN
570 RETURN
580 HDRAW"BM300,55;C5"+J$:HPAINT
(302,56),3,5:HPAINT(304,85),7,5:
GOSUB560:GOSUB460:HGET(292,55)-(
316,100),2:HPUT(292,55)-(316,100
),1:HDRAW"BM300,185;C15;R8D4L8U4
":HPAINT(302,186),15,15
590 HPUT(262,55)-(286,100),2:GOS
UB560:GOSUB460:HPUT(262,55)-(286
,100),1:HPUT(232,55)-(256,100),2
:GOSUB560:HPUT(232,55)-(256,100)

```

```

,1
600 GOSUB560
610 HPUT(202,55)-(226,100),2:GOS
UB560:GOSUB460:HPUT(202,55)-(226
,100),1:GOSUB460
620 HPUT(172,55)-(196,100),2:GOS
UB560:HPUT(172,55)-(196,100),1:H
PUT(142,55)-(166,100),2:GOSUB560
:GOSUB460:HPUT(142,55)-(166,100)
,1:HPUT(82,55)-(106,100),2:GOSUB
560:GOSUB460:HPUT(82,55)-(106,10
0),1
630 HPUT(52,55)-(76,100),2:GOSUB
560:GOSUB460:HPUT(52,55)-(76,100
),1:HPUT(32,55)-(56,100),2:GOSUB
560:GOSUB460:HPUT(32,55)-(56,100
),1:HPUT(2,55)-(26,100),2:GOSUB5
60:HPUT(2,55)-(26,100),1:GOSUB46
0
640 A=BUTTON(0):IF A=0 THEN 650
ELSE 660
650 RETURN
660 X=JOYSTK(0):J=JOYSTK(1):IF J<
10 THEN 30 ELSE IF J<34 OR J>10
THEN 680
670 NEXTT
680 HSCREEN2:POKE65497,0:PALETTE
7,50:HCLS7:PALETTE3,0:HCOLOR3,1:
PP=PP+1
690 FOR T=0 TO 100 STEP 5:E=320:H
LINE(40,T)-(E,T),PSET:NEXTT:HLIN
E(40,100)-(0,192),PSET
700 HLINE(40,100)-(40,0),PSET
710 PALETTE12,4:HCOLOR12,2:X=RND
(320):S=67:Y=RND(90):K=X+41:HLIN
E(K,Y)-(K+7,Y+5),PSET,BF:C=C+1:IF
C=30 THEN 720 ELSE GOTO 710
720 PALETTE4,5:HPAINT(0,0),4,3
730 PALETTE11,28:HPAINT(80,120),
11,3
740 HCOLOR3,3
750 HLINE(280,20)-(310,40),PSET,
B:HLIN(280,20)-(310,40),PSET,BF:
HCOLOR7,2:HLIN(295,20)-(295,40
),PSET:HLIN(280,30)-(310,30),PS
ET
760 PALETTE15,0:HCOLOR15,0:HLIN(
25,5)-(277,95),PSET,BF:HCOLOR4,
3:HLIN(24,4)-(278,96),PSET,B:HCO
LOR15,0
770 PALETTE14,63:PALETTE15,0:HCO
LOR14,15:HPRINT(4,1),"# You have
just received your ":HPRINT(4,2
),"first":PALETTE13,16:HCOLOR13,
15:HPRINT(10,2),"BIKE!":HCOLOR14
,15:HPRINT(16,2),"Unfortunately
it is":HPRINT(4,3),"not put toge
ther You have to "
780 HPRINT(4,4),"construct the b
ike by matching ":PALETTE5,34:HCO
LOR5,13:HPRINT(4,5),"CORRECT":H
COLOR14,15:HPRINT(12,5),"letters
to the right":HPRINT(4,6),"numb
er":HPRINT(4,7),"**PRESS ANY KEY
**"
790 IS=INKEY$:IF IS="" THEN 790 E
LSE 810
800 HSCREEN2:
810 PALETTE15,25:PALETTE14,25:PA
LETTE13,25:PALETTE5,25:HCOLOR3,5
:HLIN(25,5)-(125,80),PSET,B

```



```

820 HLINE(40,5)-(25,25),PSET:HLI
NE(50,5)-(25,40),PSET:HLINE(65,5
)-(25,60),PSET:HLINE(75,5)-(25,7
5),PSET:HLINE(90,5)-(35,80),PSET
:HLINE(100,5)-(45,80),PSET:HLINE
(125,35)-(277,35),PSET
830 HLINE(115,5)-(60,80),PSET:HL
INE(125,5)-(70,80),PSET:HLINE(12
5,25)-(85,80),PSET:HLINE(125,40)
-(95,80),PSET:HLINE(125,55)-(105
,80),PSET:HLINE(125,65)-(115,80)
,PSET
840 HPRINT(20,3),"BIKE SAFETY"
850 P=RND(63):A=RND(63):PALETTE1
,P:PALETTE2,A:HPAINT(28,7),1,3:H
PAINT(42,7),2,3:HPAINT(50,7),1,3
:HPAINT(72,7),2,3:HPAINT(82,7),1
,3:HPAINT(97,7),2,3:HPAINT(110,7
),1,3:HPAINT(122,7),2,3:HPAINT(1
25,12),1,3:HPAINT(124,75),1,3:HP
AINT(124,05),1,3
860 HPAINT(124,20),1,3:HPAINT(12
4,30),2,3:HPAINT(124,52),1,3:HPA
INT(120,78),1,3:HPAINT(120,65),2
,3
870 GOTO 890
880 FORS=1 TO10:PALETTE1,0 PALET
TE2,63:FORT=1 TO300:NEXTT:PALETT
E1,63:PALETTE2,0:FORA=1 TO300:NE
XTA:NEXTS:RETURN
890 GOSUB880
900 HPRINT(20,13),"Press c to go
on"
910 C$="L50G20F30E40":HDRAW"BM20
0,150;C3"+C$:HLINE(160,200)-(153
,150),PSET:HCIRCLE(80,130),15,3:
HCIRCLE(250,120),15,3,5:D$="E10
L2R4L2G10L2R4":HDRAW"BM100,115;C
3"+D$:HDRAW"BM50,160;C3;D15F7":H
CIRCLE(100,140),6,3,1,.75,.25:HD
RAW"BM240,150;C3;L15F8E7"
920 HCIRCLE(300,120),5,3,1,.25,.
75:HDEAW"BM300,115;C3;D10":HPRIN
T(18,10),"A":HPRINT(32,10),"B":H
PRINT(24,8),"C":HPRINT(24,10),"D
":HPRINT(33,7),"E":HPRINT(33,6),
"F"
930 HPRINT(24,6),"G"
940 FORY=1 TO 40:V=RND(63):O=RND
(63):PALETTE1,V:PALETTE2,C:FORT=
1 TO200:NEXTT:PALETTE2,V:PALETTE
1,O:FORT=1TO200:GOSUB950:NEXTT:N
EXTY950 G$=INKEY$:IF G$=""THEN R
ETURN
960 GOSUB2364
970 ATTR 2,4,B:K=K+1:LOCATE12,7:
PRINT"ANATOMY OF BIKE":ATTR2,4
980 IF K=2 THEN 1040
990 LOCATE 4,10:PRINT"1)BIKE FRA
ME 2) PEDALS& CHAIN ":ATTR2,4:L
OCATE 4,12:PRINT"3)SEAT 4) WHEEL
1 5) WHEEL 2":ATTR2,4:LOCATE 4
,14:PRINT"6)HANDLEBARS & FORKS &
GEARS":ATTR2,4
1000 IF K=2 THEN 1040
1010 LOCATE4,18:ATTR3,2:PRINT"PR
ESS 'C' TO CONTINUE":ATTR2,4
1020 O$=INKEY$:IFO$="C"ORO$="c"
HEN1030ELSE 1020
1030 GOSUB2364
1040 LOCATE 4,10:PRINT"YOU HAVE

```

# BIKE SAFETY

```

TO MATCH ":ATTR2,4:LOCATE4,10:P
RINT"THE NUMBERS(AS SEEN AGAINST
THE ":ATTR2,4:LOCATE4,12:PRINT
"WORDS ON THE PREVIOUS PAGE) TO
":ATTR2,4:LOCATE4,13:PRINT"THE
RIGHT LETTERS":ATTR2,4
1050 LOCATE4,14:ATTR3,6:PRINT"GO
OD LUCK!":FORF=1TO3000:NEXTF:ATT
R2,4:LOCATE4,15:PRINT"PRESSING <
H> WILL SEND YOU BACK ":ATTR2,4
:LOCATE4,16:PRINT"TO THE BEGIN-
":ATTR2,4:LOCATE4,17:PRINT"NI G O
R TO WORD CHRS IF YOU NEED ":AT
TR2,4:LOCATE4,18
1060 PRINT"HELP <W>":ATTR2,4:FO
RE=1 TO 2500:NEXTF
1070 GOSUB2364
1080 ATTR6,3,U,B:LOCATE12,5:PRIN
T "MATCH THE NUMBERS ":ATTR2,4
1090 GOTO 1110
1100 LOCATE4,20:PRINT"PRESS <H>
FOR HELP <W> FOR WORDS <C>":AT
TR2,4:LOCATE4,21:PRINT"FOR NEXT Q
UESTION":AA$=INKEY$:IF AA$="" T
HEN 1100 ELSEIF AA$="H" THEN 680
ELSE IF AA$="C"THEN RETURN ELSE
IF AA$="W" THEN 1130
1110 GOSUB1100
1120 GOTO 1140
1130 GOSUB2414
1140 CLS5:LOCATE12,4:ATTR4,4,B:P
R=PR+1:PRINT"MATCH THE LETTERS":
LOCATE12,6:ATTR4,4:INPUT"A=":AA:
LOCATE12,7:INPUT"B=":AB:LOCATE1
2,8:INPUT"C=":AC:LOCATE12,9:INPU
T"D=":AD:LOCATE12,10:INPUT"E=":A
E:LOCATE12,11:INPUT"F=":AF
1150 IF AA=4 AND AB=5 AND AC=1
AND AD=2 AND AE=6 AND AF=3 THEN
1170 ELSE 1160
1160 GOSUB2364:LOCATE12,4:PRINT
"WRONG!!":ATTR2,4:FORR=1 TO1000:
NEXTR:GOTO1110
1170 PLAY"O4T20L2AEDRA#CBT1502FL
3GFCAE01EDEEDL1EDL45ED":CLS:LCCA
TE12,4:POKE359,57:POKE65314,16:P
RINT"STATUS REPORT":ATTR4,4:LOC
ATE14,5:PRINT"YOU CALLED HELP";P
P" AND CALLED THE WORD LIST ":PQ
"AND HAD ":PR "NUMBER OF GOES":
ATTR4,4
1180 LOCATE12,15:INPUT"PRESS <C>
TO CONTINUE":S$:IF S$="C" OR S$
="c" THEN 1190 ELSE 1180
1190 PALETTE 8,RND(63):PALETTE0,
RND(63):ATTR2,6:LOCATE5,3:PRINT
"CONGRATULATIONS":
ATTR5,1

```

```

1200 FORT=1 TO 1000:NEXTT:PALETT
E8,19:PALETTE0,50:CLS0:LOCATE12,
4:PRINT"SECTION TWO":
1205 FORT=1TO2500:NEXTT
1210 PALETTE8,63:PALETTE0,0:CLS1
:WIDTH80:LOCATE12,4:PRINT"*Sect
ion Two*":PRINT"You have now su
ccessfully put your bike togethe
r.You will now learn about the d
ifferent parts of the bike and t
heir function and how to look af
ter your bike"
1220 :PRINT"In the section after
you will then learn about road
rules andat the end of the progr
amme will play an adventure type
game to emphaise all you have l
earned.A test will then be given
and a printout will be availabl
e"
1230 INPUT"PRESS 'C' TO CONTINUE
":D$:IF D$="C"OR D$="c" THEN 124
0 ELSE 1230
1240 WIDTH80:PRINT"MENU":PRINT"L
ECTURE ON BIKE":PRINT"1)WHEELS 2
)FRAMES 3) PEDALS & CHAINS 4) LI
GHT AND HANDLEBARS AND FORKS & B
RAKES ":PRINT"SAFETY":PRINT"5)CA
RING AFTER YOUR BIKE & SAFETY 7)
ROAD RULES 8) EXIT TO NEXT SEC
TION
1250 PRINT"9)EXIT TO PREVIOUS SE
CTION 0) GOTO MAIN MENU"
1260 AA$=INKEY$:IF AA$="" THEN 1
260
1270 IF AA$="1" THEN 1280 OR ELS
E IF AA$="2"THEN 1420 OR ELSEIF
AA$="3" THEN 1490 ORELSE IF AA$=
"4" THEN 1620 ORELSE IF AA$="5"
THEN 1710 OR ELSEIF AA$="7" THEN
1840 ORELSE IF AA$="8" THEN 194
0 ORELSE IF AA$="9" THEN 960 OR
ELSE IF AA$="0" THEN330
1280 HSCREEN4:HCLS1:HCOLOR2,2:HP
RINT(35,3),"WHEELS":HCIRCLE(300,
100),130,4
1290 HCIRCLE(300,100),129,4:HCIR
CLE(300,100),125:HCIRCLE(300,100
),5,4:HCIRCLE(300,100),10,4
1300 HLINE(20,50)-(80,150),PSET,
B:HLINE(55,55)-(45,145),PSET,B:H
LINE(55,55)-(75,35),PSET
1310 HPRINT(10,3),"SPOKE":HPRINT
(35,15),"HUB AND BALL BEARINGS":
HPRINT(16,10),"TYRE"
1320 FORL=1 TO 3000:NEXTL
1330 FORL=1 TO 250:NEXTL:WIDTH40
1340 LOCATE20,0:PRINT"THE WHEEL"
:PRINT"The wheel is an essential
part of a bicycle.It is the thi
ng which allows the bike to trav
el and which supports the bike.T
he wheel also contains the tyre
,ballbearings ,spokes and hub as
well as the rim."
1350 PRINT " ":PRINT"The rim i
s a circular piece of metal whic
h the spokes are attached to.The
rims main purpose is to support
the tyre and attach it to the m
ain frame of the bike.The spokes

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Job is to act rather like a shock absorber and the ballbearing
1360 PRINT"ensure that the wheel moves smoothly":FOR T=1 TO 4000:
NEXT T:INPUT"PRESS C TO CONTINUE"
:AA$:IF AA$="C" OR AA$="c" THEN
1370 ELSE 1340
1370 CLS:PRINT" You should always check your bike before you ride it and make sure everything is all right. Your tyres should be at a fairly high pressure to make sure that the rim is not damaged, and the rims should be polished when you wash your bike
1380 PRINT" You should also check that the nuts attaching the hub to the forks is tight and secure."
1390 INPUT"DO YOU WANT TO SEE THAT AGAIN Y/N":L$:IF L$="Y" THEN
1280 ELSE IF L$="N" THEN 1240
1400 GOTO 1400
1410 GOTO 1240
1420 SOUND$4,1:HSCREEN2:ATTR1,3:
HDRAW"BM100,50;C4G50F50U100":HLIN
E(100,50)-(170,85),PSET:HLIN E(
100,150),PSET:HCOLOR2,6:HPRINT(5
,3),"THE FRAME"
1430 HDRAW"BM95,60;C4G40F40U80":
HLIN E(100,55)-(165,85),PSET:HLIN
E(100,145),PSET
1440 HPRINT(5,5),"PRESS 'C' TO G
O ON":A$=INKEY$:IF A$="C" THEN 1
450 ELSE 1440
1450 WIDTH40:CLS2:ATTR4,3:LOCATE
12,4:PRINT"THE FRAME":ATTR3,2:P
RINT"The frame is the main of the
bike. Attached to it are all the
things which make up the bike.
It too should be regularly clean
ed and looked after. It is design
ed to take all the stress"
1460 PRINT" ";PRINT"Placed upo
n it and is constructed of two t
riangles which suit this purpose
suitably."
1470 INPUT"DO YOU WANT TO SEE TH
AT AGAIN":AA$:IF AA$="Y" THEN 14
20 OR IF AA$="N" THEN 1480 ELSE
1240
1480 GOTO 1240
1490 HSCREEN4:HCLS1:HCOLOR0,1:HP
RINT(20,3),"PEDALS AND CHAIN"
1500 HLINE(100,50)-(140,60),PSET
,BF:HLIN E(150,150)-(190,160),PSE
T,BF:HLIN E(170,150)-(120,50),PSE
T:HLIN E(165,150)-(115,50),PSET
1510 HCIRCLE(145,105),20,4:HPAIN
T(145,105),3,4:HPAINT(149,105),3
,4:HPAINT(140,105),3,4
1520 HCIRCLE(500,100),20,4,1,.75
,.25:HCIRCLE(350,100),30,4,1,.25
,.75:HLIN E(350,85)-(500,90),PSET
:HLIN E(500,110)-(350,115),PSET
1530 HPRINT(2,78),"PRESS 'C' TO C
ONTINUE":A$=INKEY$:IF A$="" THEN
1530 ELSE IF A$="C" THEN 1540 ELSE
1530
1540 WIDTH40:CLS6:ATTR4,3:PRINT"
";PRINT"PEDALS AND CHAINS"

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1550 ATTR4,3:PRINT"Pedals and ch
ains are an important part of th
e bike. They essentially drive th
e bike and can be considered as
the motor driving the vehicle(bi
ke)"
1560 PRINT"Screws holding the pe
dals onto the arm must always be
checked and worn out pedals mus
t be replaced. The chain is used
to turn the wheel around and it
is important that it is checked
for faults and taken apart for o
iling"
1570 PRINT" For night travel it's
a good idea to get pedals with
reflectors* * *":INPUT"PRESS C T
O CONTINUE":KK$:IF KK$="C" THEN GO
TO 1580 ELSE 1490
1580 CLS:PRINT" ";PRINT"THE SEA
T":PRINT"The seat is specially d
esigned on most bikes to support
your body comfortably and pract
ically. The gear s are a complica
ted set of cogs of different siz
es which makes travelling hard o
r easy. Your brakas though are"
1590 PRINT" perhaps one of the
most vital objects on the bike t
hese too are situated on the han
dlebars and by squeezing one of
the wires it forces the brake pa
ds on the rim and slows the bike
down. Brake pads should be regul
arly checked and replaced"
1600 INPUT"DO YOU WANT TO SEE TH
AT AGAIN Y/N":L$:IF L$="Y" THEN
1490 ELSE IF L$="N" THEN 1610
1610 GOTO 1240
1620 HSCREEN4:HCLS2:HCIRCLE(100,
50),30,0,1,.25,.75:HCIRCLE(100,5
0),40,0,1,.25,.75:HDRAW"BM100,50
;C0;BU15U5D5BD30D100L10U95":HPAI
NT(98,135),0,0:HPAINT(96,66),0,0
1630 HCIRCLE(400,90),40,3,1,.25,
.75:HDRAW"BM400,90;C3;U20D40":HP
AINT(399,80),3,3
1640 HCOLOR4,4:HPRINT(2,0),"HAND
LEBARS & HEADLIGHTS & FORKS":HPR
INT(2,20),"FORKS":HPRINT(13,10),
"HANDLEBARS":HPRINT(32,15),"LIGH
T"
1650 FOR T=1 TO 4000:NEXT T:WIDTH4
0:PRINT:PRINT:PRINT" ";ATTR3,2
:PRINT"HEADLIGHTS AND HANDLEBAR
S";
1660 PRINT:PRINT:PRINT" ";PRIN
T"Headlights and handlebars are
two important parts of the bike.
The handlebars steer the bike an
d should be regularly checked fo
r alignment. Proper stoppers shou
ld be fitted where the handgrips
should be"
1670 PRINT" ";PRINT"As well as
a possible headlight the handleb
ars may contain a bell or gear l
evaps. Headlights are used for li
ght at night and also should be
checked often. Globes are easily
broken and wires from a battery

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or a generator can be become";
1680 PRINT"loose etc":PRINT" ";
:PRINT"The forks attach the han
dle bars to the wheel for steerin
g and frame ,they are often made
of chrome
1690 INPUT"WOULD YOU LIKE TO SEE
THAT AGAIN":AA$:IF AA$="Y" THEN
1620 ELSE IF AA$="N" THEN 1240
1700 GOTO 1690
1710 WIDTH40:CLS0:PALETTE12,63:P
ALETTE13,0:PRINT"CARING AFTER YO
UR BIKE"
1720 PRINT" ";PRINT"It is esse
ntial that you look after your b
ike if you wish to keep it in go
od order. There are many things t
hat you can do to look after you
r bike-
1730 PRINT" ";PRINT"Many thing
s must be constantly checked and
replaced if needed.":PRINT" "
:PRINT"These include:tyres whic
h must be checked for wear and p
unctures---handlebars must be in
alignment/& at the right height a
s must the seat --gears & chai
1740 PRINT"be oiled and cleaned-
brakes be checked for wear & a
djusted -- pedals tightened ,and
generally have the bike clean a
nd in a good state. A checklist i
s on the next page"
1750 INPUT"C TO CONTINUE":LL$:IF
LL$="C" THEN 1760 ELSE 1750
1760 CLS2:PRINT"C H E C K L I S
T":PRINT" ";PRINT"1) ARE THE H
ANDLEBARS STRAIGHT AND AT THE RI
GHT HEIGHT?":PRINT"2) IS THE SEAT
AT A GOOD HEIGHT (FEET JUST TOU
CHING GROUND)":PRINT"3) ARE BRAK
ES IN ORDER & NOT WORN?":PRINT"4)
ARE THE GEARS-CHAIN OILED & WO
1770 PRINT"5) ARE THE TYRES PUMP
ED UP/VITH A GOOD TREAD":PRINT"6
)CHECK TO SEE THAT ALL SCREWS AR
E TIGHT":PRINT"7) HAVE YOU GT YO
UR HELMET":PRINT"8) (FOR NIGHT) HA
VE YOU A LIGHT WORKING FRONT & B
ACK":PRINT"9) ARE YOU WEARING BRI
GHT CLOTHES"
1780 PRINT"10) REMEMBER TO TAKE C
ARE AT ALL TIMES & NOT TO DO ANY
THING SILLY. OBSERVE THE ROAD RU
LES*AT ALL TIME!*"
1790 INPUT"WOULD YOU LIKE A PRIN
TOUT OF THIS":LL$:IF LL$="Y" THEN
1800 ELSE 1810
1800 REM SPACE FOR PRINTER ROUTI
NE
1810 CLS:PRINT" ";PRINT"Remem
ber many hundreds of children ar
e killed or injured gvery year o
n the roads.":PRINT" ";PRINT"A
lways wash your bike and look af
ter it & take to a bike shop at
least twice a year to clean ball
bearings etc"
1820 INPUT"WOULD YOU LIKE TO SEE
THAT AGAIN":LL$:IF LL$="Y" THEN
1710

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1830 GOTO 1240
1840 CLS:ATTR,3,B:PRINT" ROAD
*** RULES ":ATTR,2:PRINT" It is
essential that you observe & kno
w the road rules. Road rules are
necessary for safety & order":PR
INT"major road rules are---":PRI
NT"1) keep to the left 2) observe
the speed limit 3) always ride
1850 PRINT" single file 4) dont
weave between cars or blindly pi
de behind a car where youre not
seen 5) dont overtake 6) dont ri
de on wrong side of roads 7) sign
al when turning 8) dont ride on f
ootpaths unless on a dangerous t
oroughfare 9) wear a helmet";
1860 PRINT" 11) dont ride at nigh
t without a light front & back a
nd reflectors 12) wear brightly c
oloured clothes 13) dont do anyth
ing stupid & be careful"
1870 INPUT"PRESS C TO CONTINUE";
LL$:IF LL$="C" THEN 1880 ELSE 18
70
1880 HSCREEN4:HCOLOR1,3:HPRINT(0
,0)," R O A D R U L E S "
1890 HPRINT(0,1),"IF AT A 'T' IN
TERSECTION GIVE WAY TO THE LEFT&R
IGHT BEFORE TURNING":HPRINT(0,2)
,"IF A VEHICLE IS TURNING INTO Y
OUR STREET GIVE WAY TO IT FIRST
THE SAME RULE":HPRINT(0,3),"APPL
IES AT A CROSS INTERSECTION REME
MBER TO OBEY STOP GIVEWAY SIGN
1900 HPRINT(0,4),"AND TRAFFIC LI
GHTS ALL THE RULES FOR A NORMAL
CAR APPLY TO YOU":HPRINT(0,5),"I
F CROSSING A ZEBRA CROSSING GET
OFF YOUR BIKE & WHEEL IT ACROSS"
1910 HPRINT(0,7),"press any key"
1920 AA$=INKEY$:IF AA$="" THEN 192
0 ELSE 1930
1930 WIDTH40:INPUT"WOULD YOU LIK
E TO SEE THAT AGAIN";AA$:IF AA$=
"Y" THEN 1840 ELSE 1240
1940 HSCREEN2:PALETTE0,25:PALETT
E1,5:HCOLOR1,0:HPRINT(5,5),"DANG
EROUS":HPRINT(5,10),"RIDING !":H
PRINT(5,18),"AN ADVENTURE BY N F
ULLER"
1950 HCOLOR1,0:HDRAW"BM200,50:C3
L30G30D30F30R30E30U30H30":HPAINT
(200,60),3,3:HCOLOR1,0:HPRINT(21
,11),"STOP":FOR=1 TO 10:PALETTE
1,63:FOR=1 TO 50:NEXTS:PALETTE1,0
:NEXTT
1960 HPRINT(20,0),"PRESS ANY KEY
"
1970 AX$=INKEY$:IF AX$="" THEN 19
70 ELSE 1980
1980 HCLS:HDRAW"BM0,0:C2F160E160
":HPRINT(15,0),"**SUMMONS**":PAL
LETTE2,9:HCOLOR2,4:HPRINT(0,2),"T
ASK: You are in your garage. You m
ust":HPRINT(0,3),"ride to the ot
her side of town with":HPRINT(0,
4),"a secret letter but beware t
here are "
1990 HPRINT(0,5),"many dangers t
o overcome & hazards":HPRINT(0,7

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),"PRESS ANY KEY"
2000 AX$=INKEY$:IF AX$="" THEN 20
00 ELSE 2010
2010 HSCREEN2:HCLS0:HDRAW"BM0,10
0:C2;R319H40U60D60L150U60D60G40U
100D100":HLINE(130,60)-(220,1),P
SET:HLINE(250,60)-(260,1),PSET:H
PAINT(0,0),7,2:PALETTE6,19:HPAIN
T(200,2),6,2:HPAINT(120,5),3,2:H
PAINT(319,5),3,2:HPAINT(120,90),
5,2
2020 HCIRCLE(160,15),15,3,2:HPAI
NT(160,15),3,3:HCIRCLE(190,20),4
,3,2:HPAINT(190,20),3,3
2030 HPRINT(0,13),"YOU'RE ABOUT
TO RIDE"
2040 HPRINT(0,14),"WHAT HAVE YOU
FORGOTTEN?":HPRINT(0,15),"A)PAI
NT B)KNIFE C)HELMET"
2050 AS$=INKEY$:IF AS$="" THEN 205
0 ELSE 2060
2060 IF AS$="C" THEN 2080 ELSE 2
070
2070 SOUND1,5:GOTO 2050
2080 GOSUB2514:GOSUB2814
2090 HCOLOR4,6:HPRINT(0,13),"WIL
L YOU (M)OUNT OR (C)HECK"
2100 A$=INKEY$:IF A$="" THEN 2100E
LSE 2110
2110 IF A$="C" THEN 2120 ELSE 2130
2120 HPRINT(0,14),"YOU CHECK YOU
R BIKE & FIND":GOSUB2854:GOTO 21
90
2130 T=RND(3):HPRINT(0,15),"YOU
ARE RIDING ALONG AN AVENUE":HPRI
NT(0,16),"YOU MUST STOP SUDDENLY
TYPE BRAKE"
2140 AS$=INKEY$:IF AS$="" THEN 2140
2150 IF AS$="B" THEN 2170 ELSE 2140
2160 IFT<2 THEN 2170 ELSE 2180
2170 HPRINT(0,17),"YOU FORGOT TO
CHECK YOUR BIKE YOUR":HPRINT(0,
18),"BRAKES ARE FAULTY YOU CRASH
":GOSUB90:CR=CR+1:GOTO 2190
2179 SOUND1,23
2180 HPRINT(0,17),"YOU NEARLY CR
ASHED CHECK YOUR BIKE":HPRINT(0,
18),"BEFORE you ride it!":C=C+1
2190 HPAINT(1,150),1,2:HPRINT(0,
13),"Do you ride on left or righ
t?":
2200 AS$=INKEY$:IF AS$="" THEN 220
0
2210 IF AS$="L" THEN 2230 ELSE IF
AS$="R" THEN 2220
2220 HPRINT(0,16),"You were hit
by a car lucky you had":HPRINT(0
,17),"a helmet":FORP=1 TO 10:FLA
Y"T25501AAAAAAAAAAAAAAAAAAAAV":
NEXTP:PALETTE7,6:GOTO 2010
2230 HPRINT(0,16),"JUST AS WELL!*
*ANY KEY":AS$=INKEY$:IF AS$="" THEN
2230
2240 HPAINT(1,150),0,2:HPRINT(0,
13),"PICK THE RIGHT ANSWER. YOU R
IDE ":HPRINT(0,14),"A)ON THE FOO
TPATH B)ON THE ROAD ":HPRINT(0,1
5),"C)DOUBLE FILE D)ON THE RIGHT
"
2250 AQ$=INKEY$:IF AQ$="" THEN 225
0

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2260 IF AQ$="A" OR AQ$="CQ" OR AQ
$="D" THEN GOSUB3164 ELSE IF AQ$
="B" THEN 2261
2261 HPAINT(1,150),1,2
2262 HPAINT(100,150),0,2:HPRINT(
0,13),"YOU COME TO AN INTERSECTI
ON":HPAINT(200,5),5,2:HPRINT(0,1
5),"PRESS ANY KEY"
2263 AS$=INKEY$:IF AS$="" THEN 2263
2264 WIDTH40:ATTR,2:CLS:PRINT"
YOU MUST PUT THE LETTERS IN THE
CORRECT ORDER IN ORDER TO STOP"
2265 PRINT"A)TURN B) GIVEWAY C)S
IGNAL D)SLOWDOWN":INPUT"1=";JJ$:
INPUT"2=";JH$:INPUT"3=";JG$:INPU
T"4=";GD$:IF JJ$="D" AND JH$="C"
AND JG$="B" AND GD$="A" THEN 22
66 ELSE GOTO 2264
2266 CLS:HSCREEN2:GOSUB2514:FOR=
1 TO 3000:NEXTT
2267 HSCREEN0:PALETTE7,6
2268 WIDTH32:PMODE 1,1:PCLS3:SCR
EEN1,1:DRAW"BM130,100:C2U40H40L4
0G40D40F40R40E40U40":PAINT(110,9
0),1,2
2269 FOR=1 TO 2500:NEXTT:WIDTH4
0:ATTR,2:CLS:PRINT"AT THE END O
F THE ROAD YOU SAW THAT SIGN WHA
T DO YOU DO?"
2270 INPUT"A)GO STRAIGHT AHEAD B
)GIVEWAY C)STOP D)WAIT FOR TRAIN
TO GO PAST";GG$:IF GG$="C" THEN
2271 ELSE SOUND1,10 :IF GG$="A"
THEN 3164 ELSE GOTO 2270
2271 FOR=1 TO 5:PRINT" C O R R
E C T !":NEXTT:FOR=1 TO 1000:N
EXTT
2272 CLS:PRINT"WILL YOU TURN LEF
T OR RIGHT";FF$:CLS:PRINT"TWO CO
MMODORE USERS ON SKATEBOARDS APP
ROACH YOU":INPUT"a)ride on footp
ath b)increase speed over limit
c)take the short cut d)nothing";
DC$:
2273 IF DC$="D" OR DC$="C" THEN
2275 ELSE 2274
2274 PRINT"UNFORTUNATELY YOU CRA
SHED ":GOSUB81:INPUT"YOU HAVE TO
MAKE REPAIRS ON YOUR BIKE TYPE
FIX";HH$:IF HH$="FIX" THEN 2275
ELSE 2274
2275 HSCREEN2:PALETTE0,52:HCLS0:
PALETTE4,32:PALETTE3,7:HCOLOR4,1
:HLINE(40,20)-(100,160),PSET,BF:
HDRAW"BM40,20:C4E10R60G10E10D140
G10":HPAINT(60,15),3,4:HPAINT(10
5,50),3,4
2276 PALETTE5,19:PALETTE2,36:HCI
RCLE(70,40),20,2:HPAINT(70,40),2
,2:HCIRCLE(70,85),20,2:HPAINT(70
,85),7,2:HCIRCLE(70,130),20,2:H
PAINT(70,125),5,2
2277 HPRINT(0,0),"press any key"
:AS$=INKEY$:IF AS$="" THEN 2277
2278 WIDTH40:ATTR,2:PRINT"YOU'V
E COME TO A TRAFFIC LIGHT IF THE
LIGHT IS RED YOU SHOULD A)STOP
B)CONTINUE":INPUT"";JJ$:IF JJ$=
"B" THEN GOSUB3164 ELSE IF JJ$="A
" THEN 2279
2279 AS=RND(70):PRINT"YOUR CURRE

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NT SPEED IS ":AS "KMS": IF AS>60
THEN 2280 IF T<60 THEN 2281
2280 INPUT"YOU ARE GOING TOO FAST
TYPE BRAKE TO SLOW DOWN";JJ$:IF
JJ$="BRAKE" THEN 2290 IF ELSE TH
EN 2280
2281 CLS:PRINT"YOU ARE ONLY A FE
W HUNDRED METRES AWAY FROM THE F
INISH! BUT YOU STILL HAVE TO PASS
A FEW MORE THINGS YET":INPUT"DO
YOU TURN LEFT OR RIGHT";FF$:IF
FF$="R" THEN 2282 ELSE 2285
2282 WIDTH32:PMODE1,1:SCREEN1,1:
PCLS2:CIRCLE(128,96),50,0:PAINT(
128,96),0,0:PALETTE6,50,:COLOR7,
6:LINE(100,90)-(155,105),PSET,BF
2283 FORT=1TO3000:NEXTT:WIDTH40:
INPUT"DO YOU GO STRAIGHT AHEAD (
A) OR GO THE OTHER WAY (B)";GG$:
IF GG$="A" THEN GOSUB***ELSE GO
TO 2285
2285 WIDTH32:PMODE1,1:SCREEN1,1:
COLOR2,7:PCLS:PALETTE6,38:DRAW"B
M50,50;C2R150G75H75FF5D50":PAINT
(0,0),5,2
2286 FORT=1TO3000:NEXTT:WIDTH40:
CLS:INPUT"THIS SIGN IS A A)STOP
SIGN B)GIVEWAY SIGN C)CROSSING S
IGN D)NO ENTRY SIGN E)NO PARKING
SIGN";JJ$:IF JJ$="B" THEN 2288
IF ELSE THEN 2287
2287 SOUND1,10:PRINT"WRONG PLEAS
E TRY AGAIN":GOTO 2285
2288 HSCREEN2:PALETTE0,0:HCLSO:H
DRAW"BM0,100;C4E20R10D5E4R30F20E
10F4R4F4E10R100E10F10E10F20E10F2
0E10R50":FORER=1 TO 200:A=RND(32
0):B=RND(90):HSET(A,B,4):NEXTER:
HLINE(0,150)-(320,150),PSET:HPAI
NT(0,110),2,4:HRCIRCLE(20,20),15,
6:HPAINT(20,20),6,6
2289 HPRINT(0,17),"Press any key
":AS=INKEY$:IF AS="" THEN 2289
2290 WIDTH40:PRINT"ITS LATE AT N
IGHT WHAT DO YOU NEED OF THE POL
LOWING":INPUT"A)REFLECTOR B)LIGH
T (FRONT&BACK) C)BRIGHT CLOTHING
D)ALL OF THE ABOVE":HH$:IF HH$=
"D" THEN 2292 IF ELSE 2291
2291 SOUND1,10:PRINT"WRONG TRY A
GAIN":GOTO 2288
2292 PRINT"YOU ARE RIDING ALONG
A ROAD":INPUT"TURN RIGHT OR LEFT
":ZZ$:INPUT"YOU ARE RIDING ALONG
A ROAD TURN RIGHT OR LEFT";ZX$:
PRINT"YOU'RE JUST ABOUT THERE!":
INPUT"RIGHT OR LEFT";ZZ$:IF ZZ$=
"R" THEN 2293 ELSE 2294
2293 PRINT"YOU TOOK A WRONG TURN
":GOTO 2292
2294 HSCREEN2:PALETTE0,0:HCLSO:P
ALETTE1,50:FORSS=20TO300STEP20:H
CIRCLE(SS,10),4,1:HPAINT(SS,10),
1,1:NEXTSS:FORDD=20TO300STEP20:H
CIRCLE(DD,180),4,1:HPAINT(DD,180
),1,1:NEXTDD:FORE=10TO180STEP20:
HRCIRCLE(20,E),4,1:HPAINT(20,E),1
,1:NEXTE
2295 FORCI=10TO180STEP20:HRCIRCLE
(300,CI),4,1:HPAINT(300,CI),1,1:
NEXTCI:FORT=1TO10:PALETTE1,0:FOR

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E=1TO100:NEXTE:PALETTE31,50:FORSS=
1TO100:NEXTS:NEXTT:PALETTE3,50:F
ORCI=30TO270STEP15:HRCIRCLE(CI,20
),4,3:HPAINT(CI,10),3,3:NEXTCI:F
ORDE=30TO270STEP15
2296 HRCIRCLE(DE,170),4,3:HPAINT(
DE,170),3,3:NEXTDE:FORUU=20TO170
STEP15:HRCIRCLE(30,UU),4,3:HPAINT
(30,UU),3,3:NEXTUU:FORVV=20TO170
STEP15:HRCIRCLE(290,VV),4,3:HPAIN
T(290,VV),3,3:NEXTVV:PALETTE4,15
:HRCOLOR4,5:HPRINT(10,5),"Congrat
ulations":PALETTE5,33
2297 HRCOLOR5,4:HPRINT(10,7),"You
've finished the":HPRINT(13,9),"
adventure":FORR=1TO30:PALETTE1,0
:PALETTE3,50:FORU=1TO50:NEXTU:PA
LETTE1,50:PALETTE3,0:FORV=1TO50:
NEXTV:NEXTR:
2298 FORT=1TO4000:NEXTT:WIDTH40:
ATTR3,2,U,B:PRINT"TEST!":ATTR2,1
2299 INPUT"QUESTION1":AB$:INPUT"
QUESTION2":AC$:INPUT"Q3":AD$:INP
UT"Q4":AE$:INPUT"Q5":AF$:INPUT"Q
6":AG$:INPUT"Q7":AQ$:INPUT"Q8":S
$:INPUT"Q9":FUS:INPUT"Q10":RT$:
2300 'ROOM FOR QUESTIONS
2301 'ROOM FOR QUESTIONS
2305 IFAB$="X" THEN GOSUB3370:IFA
C$="X" THEN GOSUB3370:IFAD$="X" TH
ENGOSUB3370:IFAE$="X" THEN GOSUB33
70:IFAF$="X" THEN GOSUB3370:IFAG$=
"X" THEN GOSUB3370:IFAQ$="X" THEN GOS
UB3370:IFSS$="X" THEN GOSUB3370:IF
FUS$="X" THEN GOSUB3370:IFRT$="X" TH
ENGOSUB3370
2310 PR=XX/10*100:CLS:PRINT"CONG
RATULATIONS YOU GOT ":PR "X"
2330 PRINT"PRESS ANY KEY"
2331 AS=INKEY$:IF AS="" THEN 2331
2360 GOTO 340
2361 GOTO 2361
2364 WIDTH40:PALETTERGB:CLS7:ATT
R2,4:FORX=0 TO 39 STEP 2:LOCATEX
+1,0:LOCATEX,1:LOCATEX,23:LOCATE
X+1,22:PRINT"":NEXTX:FORU=3 TO
21 STEP2:LOCATE0,U:LOCATE1,U-1:L
OCATE39,U-1:LOCATE38,U:PRINT"":
NEXTU:RETURN
2414 GOSUB2364:PQ=PQ+1:LOCATE4,1
0:PRINT"1)BIKE FRAME 2)PEDALS &
CHAIN 3)SEAT":ATTR2,4:LOCATE12,
7:PRINT"WORD LIST":ATTR2,4:LOCA
TE4,11:PRINT"4)WHEEL 1 5)WHEEL 2
6)HANDLEBARS & ":ATTR2,4:LOCAT

```

```

E4,12:PRINT"FORKS & GEARS ":ATT
R2,4:AS=INKEY$
2464 FORA=1 TO 3000:NEXTA:RETURN
2514 HPAINT(0,0),7,2:T=RND(65):I
FT<10 THEN T=T+10
2564 HPRINT(0,2),"YOUR CURRENT":
HPRINT(0,3),"SPEED IS":HPRINT(0,
5),"KMS":HPRINT(0,4),T
2614 IF T>60 THEN 2664 ELSE RETU
RN
2664 HPRINT(0,6),"TOO FAST":HPRI
NT(0,7),"TYPE B"
2714 AIS=INKEY$:IF AIS="" THEN 27
14 ELSE 2764
2764 IF AIS="B" THEN RETURN ELSE
2714
2814 PALETTE0,0:HPAINT(100,120),
0,2:PALETTE2,0:RETURN
2864 R=RND(3):IFR=1 THEN 2914 EL
SEIFR=2 THEN 2964 ELSE IF R=3 TH
EN 3064
2914 HPRINT(0,15),"NOTHING WRONG
":RETURN
2964 HPRINT(0,15),"A FLAT TYRE T
YPE FIX":AS=INKEY$:IF AS="" THEN 2
964
3014 IF AS="F" THEN RETURN ELSE
SOUND1,10:GOTO 2964
3064 HPRINT(0,15),"SEAT NOT ADJU
STED TYPE FIX":DS=INKEY$:IF DS=""
THEN 3064
3114 IF DS="F" THEN RETURN ELSE
SOUND1,10:GOTO 3064
3164 WIDTH40:ATTR3,2,B:PRINT"You
have had the unpleasant experie
nce of being killed by a semi-tr
ailer"
3214 ATTR2,3:INPUT"WOULD YOU LIK
E FLOWERS AT YOUR FUNERAL":SS:IN
PUT"DO YOU WISH TO BE CERMATED O
R BURIED":DD$
3264 IF DD$="B" THEN 3364 ELSE SOU
ND1,1:INPUT"WHERE WOULD YOU LIK
E YOUR ASHES SCATTERED":GG$:PRIN
T"YOUR FUNERAL WAS VERY NICE IND
EED YOUR ASHES WERE SCATTERED AT
":GG$
3314 INPUT"DO YOU WANT TO PLAY A
GAIN":JUS:IF JUS="Y" THEN 2010 EL
SE POKE65496,0:END
3364 INPUT"WHERE DO YOU WISH TO
BE BURIED":GG$:PRINT"YOUR FUNERA
L WAS VERY NICE YOU WERE BURIED
AT":GG$:GOTO 3314
3370 XX=XX+1:RETURN

```



# "I say, Old Chap, Have You Heard the Latest?"



Hello, hello, hello!  
I've been here a month  
now, and I thought it  
would be a good idea to  
let you know who I am!

I would like to  
introduce myself to you  
all as your one and  
only... Tandy 1000  
editor! (and IBM stuff  
too!)

Deon is the name. I  
have been asked to join  
the crowd here and work  
personally on your efforts towards learning  
more about the Tandy 1000 and IBM.

One of our main ambitions is to make  
Softgold Magazine more IBM compatible  
oriented. I had noticed, as a reader of  
Softgold, quite a few people writing in  
asking for more and more Tandy 1000 programs,  
but not a lot were printed each month. Being  
a Tandy 1000 owner I agree! So now, there is  
going to be a dramatic change! I am here!

So... T1000 users, if you have anything,  
from gossip to software that you would like  
to share, please send it in to me. If you  
also have queries, problems or anything you  
would like to know, I will do my best to get  
you the right information.

I can be caught here during the week, or

if you would like to send  
Viatel messages to me,  
please do. You may send  
your messages on page  
\*64213#, or mailbox  
755100150 or to my mailbox  
753517750.

During my silent month  
here, I finally got  
Golddisk number 1 fixed,  
Number 2 and 3 out and  
running - Golddisk number  
4 should be out soon, too.  
(It would be out sooner if

I had more contributions from all the  
brilliant Tandy 1000 and IBM users!)

Over my next few issues I plan to put some  
articles in about MS-DOS and BASIC, so if  
there is anything you would like me to cover  
first, please let me know!

This month we feature an article on  
backing up disks, one of the most important  
things you should be capable of doing.

There are always times when you accidentally  
ruin disks, I know what it is like. We do it  
all the time with Gertie (our Viatel update  
computer). When she loses the bulletin board  
frames, (we can nearly predict when she will  
throw a disk to the dump), the task of  
getting them back is now a nightly event! So  
if you are a beginner or experienced computer  
user, the first thing to learn is to back up  
disks.

Have fun!

## 1000'S OF HINTS! (well a couple anyway)

There are two ways of erasing  
files off your disk. You can  
either type ERASE filename.ext  
or type DEL filename.ext and  
both commands will do the same  
thing. DEL is quicker to type  
(it's short for DELETE).

### BOOKS

There are two books I  
recommend if you would like to  
learn more about your MS-DOS and  
how to organise your disks  
effectively. These two books  
tell you all about your MS-DOS  
disks which you received when  
you first bought your computer.

Volume one is called MS-DOS  
The Basics (cat no:25-1506)  
tells you all the little tricks  
you need to know about your DOS.  
This book will tell you about  
your MS-DOS disks in brief, so  
you can get started.

Volume two is called MS-DOS  
Advanced Applications (cat  
no:25-1507) goes into more  
detail about your DOS.  
(Recommended after you have  
finished and understood volume  
one!) Both books are available  
from most Tandy stores.

"What are all these names on  
my MS-DOS disk" a question many  
people have asked me!

Well here is a brief summary  
of the ones which will be  
useful to you...

ANSI.SYS - is a device driver  
which means it is loaded in when  
you first start your computer.  
It enables you to change colours  
on the screen and change the  
keyboard to suit your  
requirements.

APPEND.COM - searches  
directories for files. If you  
don't use any parameters, it  
will display the current path  
(Which part of the disk you are  
using).

ASSIGN.COM - This program  
enables you to 'force' the  
computer to read a disk drive.

For example when you say DIR B:  
you can actually program it to  
give a Directory of A:

ATTRIB.EXE - Enables/disables  
the READ ONLY attribute which is  
put with filenames. For example  
you can make files on the disk  
read-only so you don't erase  
them.

AUTOEXEC.BAT - A BATCH  
program which is AUTOMATICALLY  
EXECUTED when the computer is  
turned on or reset.

BASIC.EXE

BASIC.COM - Program that  
allows you to make BASIC  
programs.

CHKDSK.COM - A utility which  
CHECKS DISKS for usage and free  
space. Will also fix up faulty  
directories and file allocation  
tables.

COMMAND.COM - COMMANDS the  
computer as to what to do next.  
(This is required when you first  
turn the computer on or reset  
it.)

DEBUG.COM - A utility which  
enables you to modify memory and  
disks.

DISKCOMP.COM - DISK COMPARE.  
Compares two disks and reports  
there differences.

# BACK TO BACK UP

BY  
DEON GEORGE

The most important thing you ever do with any computer is BACK UP the software!!

I put that in capital letters because so many computer users 'accidentally' erase their master disks.

Whenever you buy any software (tape or disk), make sure you have ample tapes or disks to take copies of your programs, just in case something goes wrong (and it will in your computer using life!!)

When I was working for Tandy, (and even now working for Goldsoft), I had some unfortunate people say they have had problems with the software they have bought. They would bring in their master disk with one or two or all (!) of the most important files accidentally erased! (Someone had accidentally formatted their MS-DOS disk!!)

Making backups of your disks does a number of things for you!

1. It saves you the embarrassment of going in and being told (in a polite way) that you are a fool for not backing them up (not that we'd say it quite like that at Goldsoft!!)

2. It saves you the worry of not getting the work done or even trying to figure out what you have done!

3. It saves you time, since you can fix the problem by copying the master disk again.

One thing to remember. If you think you may have done something wrong to the computer and the software doesn't run properly, try getting the original and recopy the programs and start again. It does help... when you get totally stuck, then call for help!

A good thing to remember is keep an eye on the screen whenever you push any button and see 'what happens next', because a good program will tell you if you have done something wrong - or will pre-warn you if it is going to do anything drastic, usually it will also prompt you what to do next.

The procedure to backup your disks (whether they are your brand new master disks, your MS-DOS disk, Deskmate disk, or your every day work disk) is as follows:

1. Make sure you have a spare disk (brand new disks or ones you won't be using again) for each backup

For example, if your software comes with 6 disks, make sure you have AT LEAST 6 disks to make your copies. It is probably a good idea to have one or two more, because some software requires a data disk, which normally isn't supplied. (When you purchase the software and the salesman asks you if you have any blank disks, don't think of it as a sales pitch, he or she is making sure you have enough blank disks to make copies of the programs you have bought).

Here are some terms, which I think should be made clearer before I show you how to back up your disks:

USER DISK - is your everyday disk which you use without any worry if you do accidentally erase it.

MASTER DISK - This is the disk which comes with your particular software package. This is really only there to be used if your user disk(s) crash and become unusable. When you

use this disk all you do is copy the information over to a USER disk and put it away again (in a safe place!)

DATA DISK - is normally a disk set up to have just data on it for a particular software package. For example having a list of names and addresses, letters, worksheets, etc.

BACKUP DISK - is used to backup data so if you accidentally crash or erase your DATA disk, you can copy the information back on to your DATA disk. (This saves you the hassle of retyping those letters, or names and address which you have been putting in over the months!) This disk is used the same way as a master disk, except that normally a DATA disk is backed up on an every day basis, whereas a master disk you NEVER write data to!

2. Get your copy of your MS-DOS disk (if you haven't backed it up already, we shall do so now!). Also get your new disks and master disk.

3. Decide whether you have a



two disk drive system, or a one disk drive system. (I know this shouldn't be too hard!) I will tell you how to back up using both systems.

4. Remember that your bottom disk (on the Tandy 1000, and most computers) is called drive A: and the top is called (if you have one) B:. If you still are unsure, the A: drive is the drive which lights first when you turn your computer on.

5. Turn on your computer (as you would normally and if you don't know refer to your operation manual), put in the MS-DOS disk to get the computer going! It may ask for the date and time. Put in the date if you wish, but otherwise press enter. Wait for the A: prompt to appear.

6. Put a new disk in drive B: (this new disk will be TOTALLY erased, so if you are going to put in an old disk, make sure it is one that is NOT required any longer!) If you only have one disk drive keep your new disk in your hand for now!

7. Type DISKCOPY A: B: (ENTER) (even if you only have one disk drive!)

8. Make sure the MASTER disk which you are going to copy has a write protect tab on it. (This piece of tape goes over the slot which has been cut on the right side of the disk. This will stop any information being written to the disk. (Same system as a cassette.)

9. When the screen prompts you for a SOURCE disk in drive A: put in the MASTER disk you want to copy. (If you haven't backed up your MS-DOS disk, we shall do it now so leave it in the drive). If you have a second disk drive put the new disk in drive B:. If you haven't don't worry, just yet!

10. Press the appropriate key to start the copy (normally (ENTER)) This copy program will copy the contents of disk drive A: to the contents of disk drive B: (If you have only one drive, after a short while the computer will prompt for the TARGET disk to be inserted into disk drive A:. Take out your MASTER disk

and put in the new disk and press the appropriate key to continue the copy. You shall be prompted to swap the disks until the copy is complete.)

When the copy is complete, take your MASTER disk and put it away, for safe keeping.

A few other terms which you may come across which may confuse you!

MS-DOS: this is the disk which your computer needs for start up. Like a car needs petrol for the engine to start, the computer needs 3 files off this disk (two are hidden and the third called command.com) to get the computer up and running. These 3 programs tell the computer how to work!

DISKCOPY: a program found on your MS-DOS diskette which enables you to copy the contents of one disk to the other.

DIR: is the command to get a Directory of what is on a disk. DIR B: will tell you what is on drive B:. DIR A: will tell you what is on drive A: and plain DIR will tell you what is on the drive you are using. To swap

drives just type the drive name (A:, B:, C:, etc if you have drives C: onwards) and (ENTER) and the new prompt tells you what drive you are using.

COPY: is a command which you use to copy single files from one disk to another. Where as DISKCOPY copies the entire disk from one to another. The format for this is:

COPY d:filnam.ext d:filnam.ext where the first d:filnam.ext is the program to copy and the second, where to copy it to and what name to give it.

If there is anything you feel I haven't covered or you would like to know a little more about something else, or even if you don't know about something and you would like me write about it next month, please address your letters to:

DEON'S DESK  
GOLDSOFT PUBLISHING  
PO BOX 1742,  
SOUTHPORT QLD 4215  
or leave a message on Viatel  
number 753517750, 755100150 or  
page number \*64213#

# KING'S QUEST

by Sierra

Minimum Memory:256K

Requirements:CGA

IBM or Compatible

Cost:\$69.95

Available from  
GOLDSOFT

Well at first, I wasn't overly impressed! I had played with it before for a few minutes and it didn't compare at all to Space Quest or Leisure Suit Larry. But, I persisted!

King's Quest comes in your everyday software presented box. In the box there are two disks, a well presented introductory booklet and a catalogue.

Reading the introductory booklet was, for once, worth the ten minutes it took. It gives you a brief introduction on the scene and what you are out to achieve.

Poor King Edward has had a few bad years and you being his number one knight are given the task of recovering all his past treasures. The mirror that reads the future, a shield which always gives you victory in battle and the magic chest of gold.

Another convenient thing about all Sierra adventure games is the ability to use back up disks when playing the game.

Even though the originals are copy protected, you only need them to start the game. Once the computer has verified original, you may put in your backed up disks and play.

Once I got into the game, I had to be dragged off! It wasn't as boring as I had first imagined. Although I must say, everything has been pretty easy so far!

Through the adventure, you come across a few familiar characters from stories heard when you were young! There is the witch with the ginger bread house. A gnome with a gold key - and you must guess his name!

With this in mind, I would recommend this piece of software to your children. If you feel your children are able to act as the character and question the computer to get solutions then by all means give them a go! It's a great way of getting them 'out of the way' for a few hours, or even yourself!

Out of ten I would give it an eight and a half! I thought it was very enjoyable, but still I do think Leisure Suit Larry and Space Quest are a lot better.

The most important step you  
can do, with any computer,  
is to back up the software!

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# 1001 PC-WRITE+ — Part 2 as above.

# 0054 SIDE-WRITER — It will allow your printer to print SIDEWAYS on paper! a must for lotus users!

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# 0028 PC-MUSICIAN — Great programme, you can create and play songs on your PC!

# 1003 PC-FILE+ — Just when you thought PC-FILE couldn't get any better File+ create new standard in Database managers, comes in 2 diskettes, this is part 1, it is easier, faster and more... more powerful.

# 1004 PC-FILE+ — Part 2 as above.

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# 0148 PC-TOUCH — Your Computer will be your typing tutor, let you go at your own pace and keep track of how well you are doing.

# 0147 SLIDE — Images can be created, edited, saved, displayed and printed using the programme. Handy for Disktop Publisher.

# 0172 THE LIBRARY for lotus — 20 Super worksheets for lotus 123, from Cheque Book balancer. Cash Flow Manager to New Venture Budget!

# 0197 HARD DISK UTILITIES — Super collection of Hard disk Utilities from a utility tells you which files have not been backed up to the one helps you create sub-directory no one knows about but you!

# 0174 KID'S WORD PROCESSOR — Excellent word processor written for Children (and adult too!) in super colour and sound, features graphic menus and the lot!

# 0175 PC-DRAW #1 — A must as a part of your Desktop Publishing Library, it is a combination of programmes, providing keyboard, screen drawing, graphics printing and slide show capability.

# 0176 PC-DRAW #2 — A selection of drawings and pictures made by PC-Draw #1, plus a super slide show, you must have PC-DRAW #1 to be able to use it.

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# 0065 AFGHAN-WAR — Good WAR GAME, in colour based on Afghanistan War.

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# dot play

By Leigh Dawes EDUCATION  
TANDY 1000

Children will always have to learn our traditional number system. A calculator is useless, unless one knows the number system.

We usually learn to count by repeating the counting sequence. A child would probably learn to count to five by counting from one to five repeatedly until they can recite them by heart. Then, they will do the same thing with one through to ten, then twenty, until they realize that our number system is decimal (base 10).

"Join The Dots" is a traditional game of pencil and paper, whereby with the dots already marked, the participant joins all the dots together to eventually draw a picture. Usually, the first number is one and the last number varies according to the picture.

One day I was watching Jackie try to draw a "Dot to Dot", and I realized the potential for children to practice the number system at an early age using computers. The outcome was the program named "DOT".

"DOT" allows a random selection of dots or a file selection of dots. In the random selection, the computer asks you how many dots the child would like to play with, and the response from you is the maximum number of dots to be displayed. The computer will randomly display dots on the screen and the child will enter the number of the current dot. This being successful, the computer will draw a line between the relevant dots. This will continue until the maximum number selected by you (or your child) is reached.

In the file selection, the computer loads a file and uses this file to determine what must be set up on the screen. These files are created prior to the child playing with the program. Up to nine files are used to determine what picture you want displayed to the child.

These files have the extension of .PIC and are created before the program is run. As mentioned, the user can have up to 9 of these files, starting from PIC1.PIC, then PIC2.PIC, ..., and eventually, PIC9.PIC.

The way to create these files are easy. Your screen should be made up of 640 pixels across and 200 down. The program uses pixel number 8 to 550 across and from pixel number 8 to 177 down. This means that no coordinates must be out of this range. The

coordinates of 8,8 would be on the top left hand of the screen and 550,177 would be on the bottom right hand of the screen. These would be written in a file as follows: 8 8 550 177. Instead of commas separating the numbers we only need a space. 8 8 550 177 would draw a line from the top left hand corner to the bottom right hand corner. The program needs at least one of these files created to use the file selection mode. With no file present, only the random selection mode may be used.

To create type as follows:

COPY CON PIC1.PIC  
100 40 100 130 300 130 300 40  
110 40 <Ctrl z> <CR>

COPY CON PIC2.PIC 300 20 80  
130 300 130 520 130 310 25  
<Ctrl z> <CR>

Note: <Ctrl z> means while pressing the control key, press the letter z. <CR> means the enter or return key.

Using this method you can make the other 7 files as needed. The files contain pairs of coordinates. The X coordinate first then the Y coordinate. Using this method creation of a .PIC file is easy. Once these files are created you can run the program "DOT" for the child. They think it is a game but in reality, they are practicing to count.

I hope you have as much success with this program for your child as I did with my own. I found that I could leave Jackie by herself with little problems.

Here are the other seven files I had my daughter practicing on.

COPY CON PIC3.PIC

300 20 200 130 420 50 180 50  
400 130 310 30<Ctrl z><CR>

COPY CON PIC4.PIC

300 20 160 90 300 160 440 90  
310 25<Ctrl z><CR>

COPY CON PIC5.PIC

305 20 340 40 340 60 320 80  
360 70 400 70 440 90 440 110  
400 130<CR>

360 130 310 110 360 160 220  
160 250 110 220 130 180 130  
140<CR>

110 140 90 180 70 220 70 260  
80 240 60 240 40 275 20<Ctrl  
z><CR>

COPY CON PIC6.PIC

305 50 340 40 380 20 420 20  
460 40 460 60 440 80 420 100  
380<CR>

120 340 130 290 150 240 130  
200 120 160 100 140 80 120 60  
120 40<CR>

160 20 200 20 240 40 275  
60<Ctrl z><CR>

COPY CON PIC7.PIC

305 20 340 40 380 60 420 80  
440 100 440 120 400 140 360  
140 320<CR>

120 340 150 360 170 280 170  
220 170 240 150 260 120 220  
140 180<CR>

140 140 120 140 100 160 80  
200 60 240 40 275 20<Ctrl  
z><CR>

COPY CON PIC8.PIC

275 50 350 50 400 50 500 50  
500 100 500 150 400 150 350  
150 300<CR>

150 250 150 200 150 100 150  
100 100 100 50 200 50 250  
50<Ctrl z><CR>

COPY CON PIC9.PIC

305 30 340 30 380 50 420 70  
420 100 420 120 380 140 340  
160<CR>

305 160 275 160 240 160 200  
140 160 120 160 100 160 70  
200 50 240<CR>

30 280 30<Ctrl z><CR>

Try creating your own little pictures for your child. When the player is practicing counting, he/she will start from one and continue until a maximum number is encountered. When one is entered no line will be drawn, but lines will be drawn from two onwards. Originally, the program started from two, but is that a way to teach a young child the number system. I promptly altered it to start from one.

Once you have the program running, try modifying the program. Normally, the computer displays from dot 1 to dot N (where N is the maximum set). Imagine that N was dot 10. Instead of displaying and receiving dot numbers 1 to 10, try to modify the program so that it will display from 35 to 44 or 51 to 60, maybe at random. This will give the child some more practice. Another thought is instead of incrementing the count by one try to increment the count by 5 or 8, etc. I'll leave this to you.

Happy Computing.

by Leigh Dawes

(051) 745552 for questions and comments.



```

{$U-,R+,C-}

{ Join the dots. A good counting game. }
program JOINDOTS (Input, Output, Infile);
const
    MINDOT      = 1;  MAXDOT = 40;      {maximum number of dots in random mode}
    LINEWIDTH   = 80;      {Screen width}
    BELL        = 7;      {ASCII code for bell}
    COLOR       = 5;      {Color of foreground}
    MINX        = 8;  MAXX = 550;      {coordinates}
    MINY        = 8;  MAXY = 177;
    MAXFILE     = 9;      {number of picture files available}
type
    STRLINEWIDTH = string [LINEWIDTH];
    DOTS          = array [MINDOT..MAXDOT] of INTEGER;
var
    DOTX, DOTY           : DOTS;

    CHOICE, FILENO,
    MAXDOTNUM, ERROR,
    CURDOT, DOTCOUNT,
    LASTDOT, XCORD, YCORD : INTEGER;

    GAMEOVER, FINISHED  : BOOLEAN;

{ Clears the screen. Swap CLRSCR to whatever is
  appropriate on your machine. }
procedure CLEARSCREEN;
begin
    CLRSCR {non standard pascal. This clears the screen}
end; {CLEARSCREEN}

{ Increments NUMBER }
procedure INC (var NUMBER : INTEGER);
begin
    NUMBER := NUMBER + 1;
end; {INC}

{ Prints a character COUNT times. }
{ * Recursive * }
procedure STRINGPRINT (COUNT : INTEGER;
                      CHARACTER : CHAR);
begin
    if Count > 0 then
        begin
            WRITE (CHARACTER);
            STRINGPRINT (COUNT - 1, CHARACTER)
        end; {else}
end; {STRINGPRINT}

{ Outputs a number of blank lines according to LINES. }
procedure STEP (LINES : INTEGER);
var
    COUNT : INTEGER;
begin
    for COUNT := 1 to LINES do
        Writeln
    end; {STEP}

{ Print INSTRING in the centre of WIDTHLINE }

```

```

procedure CENTER      (INSTRING {input} : STRLINEWIDTH;
                       WIDTHLINE {input} : INTEGER);
var
  L : INTEGER;          {This is our temporary variable}
begin {CENTER}
  L := LENGTH (INSTRING);      {What is the length of our string}
  L := L div 2;                {What is the centre}
  WIDTHLINE := WIDTHLINE div 2; {Find out what is half of the linewidth}
  L := WIDTHLINE + L;          {Where is the last character position}
  WRITELN (INSTRING : L)       {Now print the string}
end; {CENTER}

{ Get number from keyboard }
procedure GETNUM (var NUMBER {output} : INTEGER);
var
  NUMSTR : string [4];
begin
  READ (NUMSTR);                { Read a string from Input }
  VAL (NUMSTR, NUMBER, ERROR);  { Convert it to a number }
end; {GETNUM}

{ Introduction to program called "DOT" }
procedure INTRO;
var CH : CHAR;
    X,Y : INTEGER;

{ Draws diamond shape.}
procedure DRAWDIAMOND (X, Y {input} : INTEGER);
const
  HEIGHT = 10;
  COLOR = 5;
begin
  DRAW (X - HEIGHT, Y, X, Y - HEIGHT, COLOR);
  DRAW (X, Y - HEIGHT, X + HEIGHT, Y, COLOR);
  DRAW (X + HEIGHT, Y, X, Y + HEIGHT, COLOR);
  DRAW (X, Y + HEIGHT, X - HEIGHT, Y, COLOR);
end; {DRAWDIAMOND}

begin
  CLEARSCREEN;
  HIRES;      {Get hi resolution screen}
  STEP (5);  {print some blank lines}
  CENTER ('J O I N   T H E   D O T S ver 1-3', LINEWIDTH);
  STEP (2);
  CENTER ('an educational game for Jackie Dawes', LINEWIDTH);
  STEP (5);
  CENTER ('By Leigh Dawes', LINEWIDTH);
  CENTER ('<C>opyright 1987', LINEWIDTH);
  CENTER ('(051) 745552 for questions or comments.', LINEWIDTH);
  STEP (2);
  CENTER ('Press any key to continue!!', LINEWIDTH);

  { Draw the diamond shapes }
  X := 20;
  while X < 620 do
    begin {while}
      DRAWDIAMOND (X,175);
      DRAWDIAMOND (X,15);
      X := X + 10
    end; {while}
  Y := 15;

```

```

while Y < 178 do
  begin {while}
    DRAWDIAMOND (20,Y);
    DRAWDIAMOND (620,Y);
    Y := Y + 10
  end; {while}
  READ (KBD, CH); { Wait for keypress }
end; {INTRO}

{ Set the screen according to random or file choice }
procedure SETBOARD (CHOICE : INTEGER;
  var FILENO : INTEGER);
var
  WITHINRANGE : BOOLEAN;

{ Create the random dots }
procedure CREATEDOTS;
var
  XPOS, YPOS,
  LASTX, LASTY, X, Y, XWIDTH, YWIDTH, COUNT : INTEGER;
begin {CREATEDOTS}
  { Initialize some variables }
  XWIDTH := MAXX;    YWIDTH := MAXY;
  X := 1;            Y := 1;

  { Prepare graphics screen }
  CLEARSCREEN;
  HIRES; {Get hi resolution screen}

  { Draw dots on screen }
  for COUNT := MINDOT to MAXDOTNUM do
    begin {for}
      LASTX := X;    LASTY := Y;
      repeat
        X := RANDOM (XWIDTH);
        Y := RANDOM (YWIDTH);
      until ((ABS (LASTX - X) > 5) and (ABS (LASTY - Y) > 5)) and
        ((X > MINX) and (Y > MINY));
      DOTX [COUNT] := X; { Save our dots }
      DOTY [COUNT] := Y; { in our arrays }
      DRAW (X,Y,X,Y,COLOR); { Draw the dot }

      { Print the number to the screen }
      XPOS := X DIV 8;    YPOS := Y DIV 8;
      GOTOXY ( X div 8, Y div 8);
      WRITE (COUNT)
    end {for}
end; {CREATEDOTS}

{ Get dots from a file }
procedure GETFILE (var FILENO : INTEGER);
var
  XPOS, YPOS,
  LASTX, LASTY, X, Y, XWIDTH, YWIDTH, COUNT : INTEGER;
  INFILE : TEXT;
  FILENAME : string [121];
  TEMP : string [21];
begin {GETFILE}
  { Initialize some variables }
  XWIDTH := MAXX;    YWIDTH := MAXY;
  X := 1;
  Y := 1;

```



```

COUNT := 1;

( Prepare screen )
CLEARSCREEN;
HIRES;      (Get hi resolution screen)

( Prepare next file to load )
STR (FILENO,TEMP);      { Convert file number to string }
FILENAME := 'PIC' + TEMP + '.PIC'; { Create file name }
INC (FILENO);           { Ready file number for next file }
if FILENO > MAXFILE then { Check for maximum file number }
    FILENO := 1;
ASSIGN (INFILE, FILENAME);
{$I-}                  { Switch error handling off }
RESET (INFILE);        { Open file for input }
{$I+}                  { Switch error handling on }
if IoResult = 0 then    { Zero means no errors }
    begin
        while not EOF (INFILE) do
            begin {for}
                LASTX := X;  LASTY := Y; { Save present coords }
                READ (INFILE,X,Y);      { Read coords from file }
                DOTX [COUNT] := X;     { Save Coords in array }
                DOTY [COUNT] := Y;
                DRAW (X,Y,X,Y,COLOR);   { Draw dot on screen }

                { Print dot number on screen }
                XPOS := X DIV 8;  YPOS := Y DIV 8;
                GOTOXY ( X div 8, Y div 8);
                WRITE (COUNT);
                INC (COUNT);

            end; {for}
            MAXDOTNUM := COUNT - 1;
            CLOSE (INFILE);
        end {if no I/O error}
    else
        if TEMP = '1' then
            FILENO := 0 { Show calling procedure that no files exist}
        else
            begin
                FILENO := 1; { Reset fileno to first file }
                GETFILE (FILENO); { and call again }
            end; {if}
    end; {GETFILE}

begin {SETBOARD}
    if CHOICE = 1 then
        { Random picture selected }
        begin
            repeat
                CLEARSCREEN;  GOTOXY (1,24);
                WRITE ('Enter maximum number of dots. (',
                    MINDOT + 1, '-', MAXDOT,') : ');
                GETNUM (MAXDOTNUM);
                GOTOXY (1,24); { Position cursor }
                STRINGPRINT (80,' '); { Blank line }
                WITHINRANGE := (MAXDOTNUM > MINDOT)
                    and (MAXDOTNUM <= MAXDOT)
                    and (ERROR = 0);
                if not WITHINRANGE then
                    WRITE (CHR (BELL));
            until WITHINRANGE;
            CREATEDOTS {choose coordinates and put in array}
        end
    end

```

```

else
  { File picture selected }
  GETFILE (FILENO)
end; {SETBOARD}

{ Prompt user for dot number and accept from keyboard }
procedure GETNUMBER (var CURDOT {output} : INTEGER);
var VALID : BOOLEAN;
begin {GETNUMBER}
  repeat
    GOTOXY (1,24);
    WRITE ('Enter dot number : '); { Prompt user }
    GETNUM (CURDOT); { Get number }
    GOTOXY (1,24); { Position cursor }
    STRINGPRINT (80,' '); { Blank line }
    VALID := (CURDOT >= MINDOT) and
              (CURDOT <= MAXDOT) and (ERROR = 0);
  until VALID;
end; {GETNUMBER}

```

```

{ Join dots with a line }
procedure JOINDOT (LASTDOT, DOTNUM {input} : INTEGER);
begin
  DRAW (DOTX [LASTDOT], DOTY [LASTDOT],
        DOTX [DOTNUM], DOTY [DOTNUM],
        COLOR)
end; {JOINDOT}

```

```

{ Find out if another game is required. Returns true game to continue }
function CONTINUEGAME : BOOLEAN;
var
  CH : CHAR;
  DONE : BOOLEAN;
begin
  GOTOXY (1,24);
  STRINGPRINT (80,' '); { Blank line }
  WRITE ('Another game ? (Y/N) ');
  repeat
    READ (KBD, CH); { Get character from keyboard }
    CH := UPCASE (CH);
    DONE := (CH = 'Y') or (CH = 'N');
    if not DONE then
      WRITE (CHR (BELL))
  until DONE;
  CONTINUEGAME := CH = 'Y'
end; {CONTINUEGAME}

```

```

{ Get choice of random or file dots.}
function GETCHOICE : INTEGER;
var
  ERROR, CHOICE : INTEGER;
  CH : CHAR;
begin
  CLEARSCREEN;
  WRITE ('1. Random or 2. Pictures : ');
  repeat

```

```

        READ (KBD,CH);
        VAL (CH, CHOICE, ERROR);
until (CHOICE in [1..2]) and (ERROR = 0);
GETCHOICE := CHOICE
end; (GETCHOICE)

{ Use different seed for random function.}
procedure RandomizeMachine;
begin
    RANDOMIZE; { Use appropriate randomizing statement }
end; (RandomizeMachine)

begin (JOINDOTS)
    RandomizeMachine;

    { Set file number even though there may be no files }
    FILENO := RANDOM (MAXFILE) + 1;

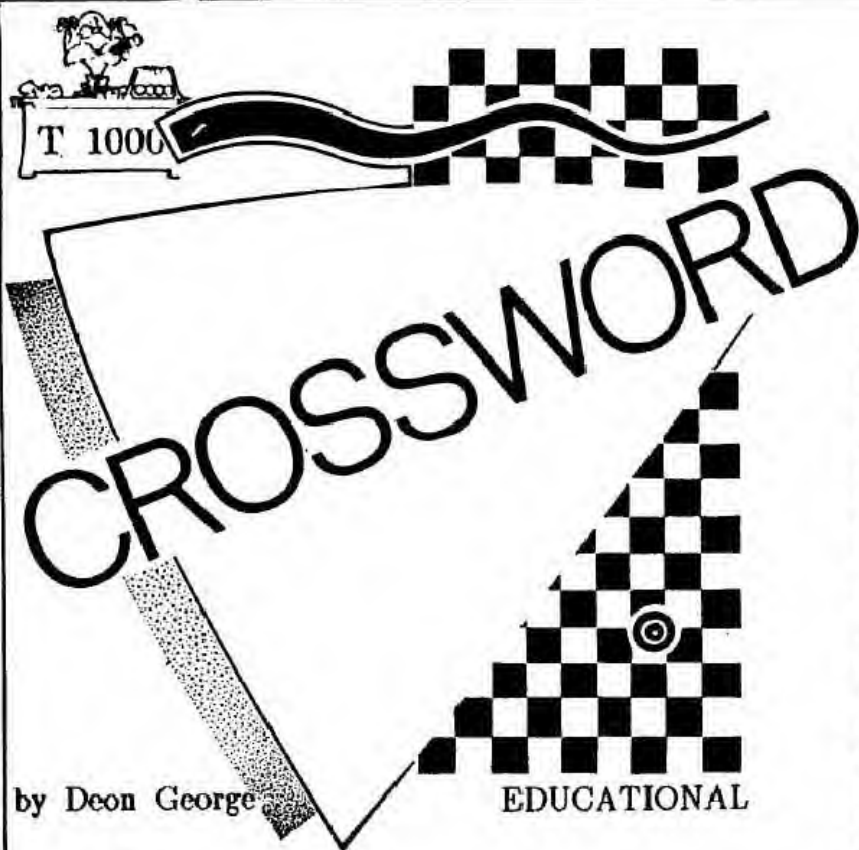
    { Display opening screen }
    INTRO;

    repeat
        CHOICE := GETCHOICE; { Random or file selection }
        SETBOARD (CHOICE, FILENO); { Display dots }
        if FILENO <> 0 then
            begin
                LASTDOT := MINDOT; { Initialize LastDot }
                DOTCOUNT := MINDOT; { and DotCount }
                repeat
                    GETNUMBER (CURDOT); { Prompt and get user number }
                    if CURDOT <> DOTCOUNT then
                        begin (if)
                            { Check user number }
                            { with the current }
                            { dot number and }
                            { warn user if }
                            { number not in }
                            { not in sequence. }
                            WRITE (CHR (BEJL));
                            GOTOXY (1,24);
                            STRINGPRINT (80,' ');
                            GOTOXY (1,24);
                            WRITE ('The next number is ', DOTCOUNT);
                            DELAY (1500);
                            GOTOXY (1,24);
                            STRINGPRINT (80,' ');
                        end (if)
                    until CURDOT = DOTCOUNT;
                    JOINDOT (LASTDOT, CURDOT); { Join the last dot with the
                                                the current dot with a line }
                    if LASTDOT < DOTCOUNT then
                        INC (LASTDOT);
                        INC (DOTCOUNT);
                        FINISHED := MAXDOTNUM = (DOTCOUNT - 1);
                    until FINISHED;
                    GAMEOVER := not (CONTINUEGAME); { Find out if another
                                                        game required.}
                end
            else
                GAMEOVER := TRUE; { No files present so abort }
            until GAMEOVER; { GameOver will be false if so. }
            CLEARSCREEN;
            if FILENO = 0 then { No .PIC files present }
                WRITELN ('There must be at least one .PIC file on disk.');
```

continued overleaf







Since this month had the theme of Educational Programs, I wrote this program so you could make a word search puzzle and give it to your children, or even to a friend to solve!

It seems a little long, but after typing it in, you should be pleased how quickly it puts a list of words in a word search puzzle!

It is very simple to run. After it is working, you are prompted to enter a question and then the answer. All the answers are sorted and then placed in the puzzle, and then the puzzle is printed. The questions will appear at the bottom of the puzzle.

You may have a solution printout if you wish.

There are no special printer codes, so you should have no problem adapting it to any printer.

A thought for improvement could be to write the puzzle to disk, so you can then have a few puzzles ready to be printed instead of making new ones every time. Also you could perhaps adapt it so you can find the words on the screen instead of a printout. Good luck!

### The Listing:

```

1 * ***** Cross word puzzle *****
2 GOTO 10
3 SAVE "crossword",A
10 SCREEN 0:WIDTH 40:KEY OFF:COLOR 15,0:CLS
20 COLOR 1,15
21 PALETTE 4,1:PALETTE 2,1:PALETTE 14,1:PALETTE 6,1:PALETTE 5,1
22 A00=300:
100 LOCATE 7,10: PRINT"....."
110 LOCATE 8,10: PRINT"....."
120 LOCATE 9,10: PRINT"....."
130 LOCATE 10,10:PRINT"....."
140 LOCATE 11,10:PRINT"....."
150 LOCATE 12,10:PRINT"....."
160 LOCATE 13,10:PRINT"....."
170 LOCATE 14,10:PRINT"....."
171 LOCATE 15,10:PRINT"....."
180 COLOR 4:LOCATE 8,11: PRINT "P";:FOR LOOP=1 TO A00:NEXT LOOP
185 IF INKEY$=" " THEN A00=1
190 COLOR 4:LOCATE 9,12: PRINT "U";:FOR LOOP=1 TO A00:NEXT LOOP
195 IF INKEY$=" " THEN A00=1
200 COLOR 4:LOCATE 10,13:PRINT "Z";:FOR LOOP=1 TO A00:NEXT LOOP
205 IF INKEY$=" " THEN A00=1
210 COLOR 4:LOCATE 11,14:PRINT "Z";:FOR LOOP=1 TO A00:NEXT LOOP
215 IF INKEY$=" " THEN A00=1
220 COLOR 4:LOCATE 12,15:PRINT "L";:FOR LOOP=1 TO A00:NEXT LOOP
225 IF INKEY$=" " THEN A00=1
230 COLOR 4:LOCATE 13,16:PRINT "E";:FOR LOOP=1 TO A00:NEXT LOOP
235 IF INKEY$=" " THEN A00=1
240 COLOR 2:LOCATE 10,19:PRINT "M";:FOR LOOP=1 TO A00:NEXT LOOP
245 IF INKEY$=" " THEN A00=1
250 COLOR 2:LOCATE 11,18:PRINT "A";:FOR LOOP=1 TO A00:NEXT LOOP
255 IF INKEY$=" " THEN A00=1
260 COLOR 2:LOCATE 12,17:PRINT "K";:FOR LOOP=1 TO A00:NEXT LOOP

```

```

265 IF INKEY$="" THEN A00=1
270 COLOR 2:LOCATE 14,15:PRINT "R";:FOR LOOP=1 TO A00:NEXT LOOP
275 IF INKEY$="" THEN A00=1
280 COLOR 14:LOCATE 8,24:PRINT "B";:FOR LOOP=1 TO A00:NEXT LOOP
285 IF INKEY$="" THEN A00=1
290 COLOR 14:LOCATE 9,25:PRINT "Y";:FOR LOOP=1 TO A00:NEXT LOOP
295 IF INKEY$="" THEN A00=1
300 COLOR 6:LOCATE 11,25:PRINT "D";:FOR LOOP=1 TO A00:NEXT LOOP
305 IF INKEY$="" THEN A00=1
310 COLOR 6:LOCATE 12,25:PRINT "E";:FOR LOOP=1 TO A00:NEXT LOOP
315 IF INKEY$="" THEN A00=1
320 COLOR 6:LOCATE 13,25:PRINT "O";:FOR LOOP=1 TO A00:NEXT LOOP
325 IF INKEY$="" THEN A00=1
330 COLOR 6:LOCATE 14,25:PRINT "N";:FOR LOOP=1 TO A00:NEXT LOOP
335 IF INKEY$="" THEN A00=1
340 COLOR 5:LOCATE 12,24:PRINT "G";:FOR LOOP=1 TO A00:NEXT LOOP
345 IF INKEY$="" THEN A00=1
350 COLOR 5:LOCATE 12,26:PRINT "O";:FOR LOOP=1 TO A00:NEXT LOOP
355 IF INKEY$="" THEN A00=1
360 COLOR 5:LOCATE 12,27:PRINT "R";:FOR LOOP=1 TO A00:NEXT LOOP
365 IF INKEY$="" THEN A00=1
370 COLOR 5:LOCATE 12,28:PRINT "G";:FOR LOOP=1 TO A00:NEXT LOOP
375 IF INKEY$="" THEN A00=1
380 COLOR 5:LOCATE 12,29:PRINT "E";:FOR LOOP=1 TO A00:NEXT LOOP
385 LOCATE 18,9:PALETTE:COLOR 4,15:PRINT "Do you need instructions?";
390 INS$=INPUT$(1)
395 IF INS$="N" OR INS$="n" THEN 1000
400 IF INS$="Y" OR INS$="y" THEN 405 ELSE 385
405 WIDTH 80:COLOR 15,0:CLS:PRINT TAB(23);"Puzzle Maker!":PRINT
410 PRINT "The idea of this program is to make a simple puzzle for your "
415 PRINT "children, which inturn could be a useful lesson!"
420 PRINT "
425 PRINT "All you do is give the computer the dimensions of the puzzle,"
430 PRINT "and the number of words if will contain and away you go. It will"
435 PRINT "ask for a question and then the answer to the question. The "
440 PRINT "answer will be place in a word search puzzle going up, down, "
445 PRINT "left, right and backwards. The questions will then be placed "
450 PRINT "underneath the puzzle for your children to answer!"
455 PRINT "
460 PRINT "If there is a word that the computer can't fit it, it will "
465 PRINT "prompt you for one of two options. 1> start over again "
470 PRINT "or 2> throw the word and question away and continue on. If this "
475 PRINT "persists I would either suggest bigger dimensions or less words!"
480 PRINT "
481 PRINT "This program is designed to be used with a printer, so if you "
482 PRINT "if you haven't go one then perhaps you could send in a version "
483 PRINT "that doesn't need a printer!"
485 PRINT "Press any key to start!";
490 INS$=INPUT$(1)
1000 CLEAR 3000:WIDTH 80:COLOR 15,0:CLS
1010 LOCATE 1,1:PRINT "Do you want this to go to the printer?";:PR$=INPUT$(1)
1020 IF PR$="n" OR PR$="N" THEN TW=80:PRINT "No":GOTO 1050
1030 IF PR$="y" OR PR$="Y" THEN PRINT "Yes":PR$="Y" ELSE 1010
1040 INPUT "How many columns does you printer have";TW
1050 PRINT "Do you want a solution print-out?";:XS=INPUT$(1)
1060 IF XS="n" OR XS="N" THEN PRINT "No":GOTO 1080
1070 IF XS="y" OR XS="Y" THEN PRINT "Yes" ELSE 1050
1080 INPUT "What is the width of the puzzle";W:MD=W
1090 IF W*2<=TW THEN 1110
1100 PRINT "That will not fit in";TW;"columns.":GOTO 1080
1110 IF W<1 THEN 1080
1120 INPUT "The length";L: IF L>W THEN MD=L
1130 IF L<1 THEN 1120
1140 INPUT "What is the maximum number of words in the puzzle";M
1150 IF M>=2 THEN 1170
1160 PRINT "Sorry, there must be at least two words!";GOTO 1140
1170 DIM A$(L,W),W$(M),QU$(M)

```



```

1180 DIM W(M,3),DXY(8,2),DD(28)
1190 PRINT "Now enter a heading that will go over the puzzle:"
1200 PRINT TAB(15);"(";TW;"characters maximum!)"
1210 INPUT "",XY$
1220 CLS
1230 PRINT "OK. . . Enter a word at each questions mark."
1240 PRINT "To redo the previous word, type a hyphen (-).",
1250 PRINT "When you run out of words, type a period (.),"
1260 SC1=6:SC2=1:FOR I=1 TO M
1264 LOCATE 4,1:PRINT I;"    ":
1265 LOCATE 4,5:INPUT "Please enter the question - maximum 60 characters!";QU$(I)
1270 LOCATE 4,1:PRINT "Next word"+SPACE$(70):LOCATE 4,10:INPUT T$
1280 IF T$<>"-" THEN 1320 ELSE I=I-1
1290 SC2=SC2-16:IF SC2<1 THEN SC1=SC1-1:SC2=64
1300 LOCATE 4,1:PRINT "REDO ";W$(I);". . . ";SPACE$(69);:LOCATE 4,11:
1310 INPUT T$:GOTO 1280
1320 IF T$="." THEN M=M-1:GOTO 1600
1330 IF LEN(T$)=0 THEN LOCATE 4,1:PRINT "Input error: REDO";SPACE$(62);:LOCATE 4,19
1340 IF LEN(T$)=0 THEN INPUT T$: GOTO 1280 ELSE J=1:
1350 T$=MID$(T$,J,1): IF T$="A" AND T$<="Z" THEN 1450
1360 IF ASC(T$)>96 AND ASC(T$)<123 THEN T$=CHR$(ASC(T$)-32) ELSE 1380
1370 T$=LEFT$(T$,J-1)+T$+RIGHT$(T$,LEN(T$)-J):GOTO 1380
1380 IF T$<="A" OR T$>="Z" THEN 1410
1390 T$=LEFT$(T$,J-1)+CHR$(ASC(MID$(T$,J,1)))+RIGHT$(T$,LEN(T$)-J)
1400 GOTO 1450
1410 IF T$=T$ THEN T$="":GOTO 1330
1420 IF J=LEN(T$) THEN T$=LEFT$(T$,J-1):GOTO 1470
1430 IF J=1 THEN T$=RIGHT$(T$,LEN(T$)-1):J=J-1:GOTO 1450
1440 T$=LEFT$(T$,J-1)+RIGHT$(T$,LEN(T$)-J):J=J-1
1450 J=J+1:IF J<=LEN(T$) THEN 1350
1460 IF LEN(T$)>MD THEN 1530
1470 FOR IZ=1 TO I-1:IF W$(IZ)=T$ THEN 1550
1480 NEXT IZ
1490 LOCATE SC1,SC2:PRINT "-";T$:"-";:SC2=SC2+16:FL=2
1500 IF SC2>64 THEN SC1=SC1+1:SC2=1
1510 IF LEN(T$)+FL>16 THEN SC=SC+16:FL=FL-16:GOTO 1510
1520 GOTO 1570
1530 LOCATE 4,1:PRINT "String too long: REDO";SPACE$(59);:LOCATE 4,21:INPUT T$
1540 GOTO 1280
1550 LOCATE 4,1:PRINT "Duplicate Entry: REDO";SPACE$(58);:LOCATE 4,22:INPUT T$
1560 GOTO 1280
1570 W$(I)=T$
1580 NEXT I
1590 REM
1600 CLS:PRINT "Now let me ponder this!!"
1610 FOR I=1 TO M-1
1620 FOR J=I+1 TO M
1630 IF LEN(W$(I))<LEN(W$(J)) THEN SWAP W$(I),W$(J):SWAP QU$(I),QU$(J)
1640 NEXT J,I
1650 FOR I=1 TO 8:READ DXY(I,1),DXY(I,2):NEXT
1660 FOR I=1 TO 28:READ DD(I):NEXT
1670 DATA 0,1,1,1,1,0,1,-1,0,-1,-1,-1,-1,0,-1,1
1680 DATA 2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,1,3,5,7
1690 FOR I=1 TO M
1700 LN=LEN(W$(I))
1710 NT=0
1720 SD=DD(INT(RND*28)+1)
1730 SX=INT(RND*W)+1:X1=SX+(LN-1)*DXY(SD,1):IF X1<1 OR X1>W THEN 1720
1740 SY=INT(RND*L)+1:X1=SY+(LN-1)*DXY(SD,2):IF X1<1 OR X1>L THEN 1720
1750 NT=NT+1:IF NT<>W*L*2 THEN 1810
1760 PRINT "Couldn't fit ";W$(I);" in the puzzle!"
1770 PRINT "Do you want me to start over";:A$=INPUT$(1)
1780 IF A$="Y" OR A$="y" THEN 1690
1790 IF A$="N" OR A$="n" THEN 1800 ELSE 1770
1800 W$(I)="":QU$(I)="":GOTO 1890

```

```

1810 J=SY:K=SX
1820 FOR P=1 TO LN
1830 IF LEN(A$(J,K)) AND A$(J,K)<>MID$(W$(I),P,1) THEN 1720
1840 J=J+DXY(SD,2):K=K+DXY(SD,1):NEXT P
1850 J=SY:K=SX
1860 FOR P=1 TO LN:A$(J,K)=MID$(W$(I),P,1)
1870 J=J+DXY(SD,2):K=K+DXY(SD,1):NEXT P
1880 W(I,1)=SX:W(I,2)=SY:W(I,3)=SD
1890 NEXT I
1900 FOR I=1 TO L
1910 FOR J=1 TO W
1920 IF A$(I,J)="" THEN A$(I,J)=CHR$(INT(RND*26)+65)
1930 NEXT J,I
1940 FOR I=1 TO M-1:FOR J=I+1 TO M
1950 IF W$(I)<=W$(J) THEN 1980
1960 SWAP W$(I),W$(J)
1970 FOR K=1 TO 3:SWAP W(I,K),W(J,K):NEXT K
1980 NEXT J,I
1990 INPUT "How many copies of this puzzle would you like";N
2000 PRINT "for each copy, hit return to begin printing..."
2010 FOR C=1 TO N:GOSUB 2020:NEXT C:GOTO 2300
2020 PRINT FM$;:INPUT A$:PRINT:PR$=LEFT$(PR$,1)
2030 FM$="Hit enter to continue!"
2040 T=(TW-2*W)/2:CLS:PR=(PR$="Y"):TS=(80-2*W)/2
2050 IF PR THEN LPRINT
2060 PRINT:IF PR THEN LPRINT
2070 CLS:PRINT TAB((80-LEN(XY$))/2);XY$
2080 IF PR THEN LPRINT TAB((TW-LEN(XY$))/2);XY$
2090 PRINT:PRINT:IF PR THEN LPRINT:LPRINT:
2100 FOR J=1 TO L:PRINT TAB(TS);:IF PR THEN LPRINT TAB(TS);
2110 FOR K=1 TO W:IF A$(J,K)<>"." THEN 2140
2120 PRINT ". ";:IF PR THEN LPRINT ". ";
2130 GOTO 2150
2140 PRINT A$(J,K);" ";:IF PR THEN LPRINT A$(J,K);" ";
2150 NEXT K:PRINT:IF PR THEN LPRINT
2160 NEXT J
2170 PRINT:PRINT:IF PR THEN LPRINT:LPRINT
2180 PO=0:PRINT "Find the answers to these questions in the puzzle!"
2190 IF PR THEN LPRINT "Find the answers to these questions in the puzzle!"
2200 PRINT:IF PR THEN LPRINT
2210 FOR J=1 TO M:IF LEN(W$(J))=0 THEN 2270
2220 IF PO+LEN(W$(J))>78 THEN PRINT:PO=0
2230 IF PR THEN IF PO+LEN(W$(J))>TW-2 THEN LPRINT:PO=0
2240 PRINT QU$(J);STRING$(LEN(W$(J)),".");IF PR THEN LPRINT QU$(J);STRING$
(LEN(W$(J)),".")
2250 PO=PO+16
2260 REM
2270 NEXT J:PRINT:PRINT:PRINT:PRINT
2280 IF PR THEN LPRINT:LPRINT:LPRINT:LPRINT
2290 RETURN
2300 IF LEFT$(X$,1)="Y" OR LEFT$(X$,1)="y" THEN 2320
2310 '
2320 REM
2330 FOR I=1 TO L:FOR J=1 TO W: A$(I,J)=".":NEXT J,I
2340 FOR I=1 TO M
2350 LN=LEN(W$(I)):J=W(I,2):K=W(I,1)
2360 FOR P=1 TO LN
2370 A$(J,K)=MID$(W$(I),P,1)
2380 J=J+DXY(W(I,3),2):K=K+DXY(W(I,3),1):NEXT P
2390 NEXT I
2400 XY$="Here is the answer key!"
2410 GOSUB 2020
2420 PRINT:PRINT
2430 END

```

# IN BRIEF

## NEW TO GOLDLINK

Micro-Educational has just moved over to GOLDLINK! See page \*64209#!

If you have been looking for something for your computer and you can't find it, give them a call!

They have things like:-

Maestro modems starting at \$179, monitors for \$199 and printers starting at \$500 and many, many, more goodies. Call them on (008) 02 5229 or Viatel \*64209#

One bargain they do have is their disk box which stores 50 disks. It has a perspex lid (which is removable), removable key and 4 dividers for \$20!

## DATA SPECTRUM

If you are looking for hardware bits for your computer, like printer cables, disks and cabinets, Data Spectrum are probably a good place to start looking.

They have everything from switches for serial and parallel printers, connecting two computers to the one printer or vice-versa. Or computers to modems or whatever you need, they probably have the required part!

If you need any printer stands, or trays, Data Spectrum will also be able to help you there!

Another good item worth looking at are the picture disks which they can make up for you. Imagine having your computer logo on the disk or on the disk sleeve! Or if you are just after coloured disks, they have blue, red, yellow, green, grey, white and black!

## COMPUTER SECURITY AT LAST

Exasoft computer systems have some software which may be of interest to all you harddisk owners.

A package called ENTREE has been designed to protect your Hard Disk from unauthorised access.

It comprises a twofold security access by password and the ability to hide files and directories on the disk. A DOS commands help facility is included which would be helpful to the amateur computer user.

There is also a preset option to back-up and restore files. There are 16 passwords and 80 menu items available.

Another good piece of software for all the wordprocessor type people out there is ZIP. This is a 'popup' program which will put postcodes in your documents. No more hassling for the postcode book!

## KEEPING UP TO DATE

Are you sick of looking for your diary, and can't find it? Well IQ Smart software (formally ISQ) are selling a program called PORTEX which looks pretty good!

It can be your diary, an address book for filing and printing names and it also has Word Processing with an 80,000 word spell checker!

Help screens are available at the touch of a button.

Portex comes complete with a leather pocket sized ring binder with section dividers, a handy function template and a comprehensive user manual for the novice or expert.

## TRANSAREA

If you have been pricing some parts for your computer, have you talked to Transarea LTD?

They are a Hong Kong based company which specialise in manufacturing a wide range of PC systems and Adapter cards for computers.

They carry everything from printers, to harddisks, and monitors to Data terminals.

All their products are under strict quality control and their reliable performance has won them a reputation.

Their address is:

King Hung Commercial Building  
4/F,  
194-196 Queen's Road Central  
Hong Kong

## FREESOFT

In this month's issue, there is an advertisement for FREESOFT.

Freesoft have a huge library of Public Domain software for your Tandy 1000 or your IBM compatible.

We have received a number of programs for review and they will appear in next month's issue.

Freesoft have everything from Utilities, to applications to Games. For example:

PIANOMAN - A user supported program for playing, recording and editing music.

HOME FINANCE - A complete home finance management system.

KID'S WORDPROCESSOR - Word processing for kids (we have this one for review!)

DISK LABELMAKER - Makes diskette labels for your disks.

and many, many more! The best part of it all is that the disks are only \$12 instead of paying \$100's for the similar product on the market!

## KIWI VIDEOTEX

Videotex in New Zealand is booming and has doubled its number of users in the last 12 months!

VIANZ (Video Industry Association of New Zealand) have over 10,000 users and 70 different services available in their second year of service. There are over 120,000 calls per month compared to 60,000 calls per month for the same time last year. The service approaches one million minutes of connect time!

Since the system is still new, the general crowd are connected to it mainly for information material which accounts for 50% of the use, on line data processing 20% of use, reservations for accommodation has 15% of use and communication services accounting for the last 15% of use.





Well possums!! I've just been doing a few turns on my broomstick and I couldn't help but notice all that electronic trash you mere mortals seem to be hanging on to. Just like a lot of little bower birds, aren't we!! Ummm!!

If any of you darling little possums would like to swap that junk for cash then why not place your ad here.

We'll run your ad for a month or so - and remember possums, let us know if your junk sells so we can adjust our records - and you never know, you just might be able to make enough money to purchase a super turbo charged "stick" like mine.

And possums - do it - now!

Martha.

#### Wanted to buy

Sep '87

Any voice/sound/speech pack with any associated software, or an oz supplier.

To be used to develop programs for a blind pensioner.

Back copies of Oz R/bow: Jan'83, Nov'82, Apr-Sep'82, Jan & Feb'82, July-Nov'81

2nd hand modem suitable to use Viatel, Stars etc. Must have software & cables if possible.

"Startrader" graphics space adventure game. Tape, disk or oz supplier of same, circa '84(?).

Tom. McCoy,  
C/- P.O.  
Willawarrin, NSW 2440.  
Phone: (065) 671392

\*\*\*

Sep '87

\$ make an offer: Digitizer (prefer model no.DS691 from Micro Works, but any other model will do).

Ring Malcolm Patrick on 086-457-637

#### For Sale:

Sep '87

\$175: NEC Twin disk drives, model PC8023B with controller and both RS-DOS and RB-1.4 chips.

\$100: Grey case 64k ECB CoCo, HJL keyboard, composite video-audio card and power-on LED fitted. (original keyboard included.)

\$ 50: CCR-81 cassette recorder

\$ 40: the lot, various tapes. Includes Raaka-tu (with manual), Colour Computer Learning Laboratory (with manual) Robin Brown's Convert (converts from PMODE 4 to PMODE 3 colour, include Zaxxon demo), CoCo-Oz on Tape and lots of other stuff. 17 tapes altogether, although tapes can be bought separately.

\$ 30: each, original software: Telewriter-64 tape/disk, Dynacalc disk, Pro-colour-file disk, VIP database disk. All with manuals.

\$ 25: Two tandy standard joysticks with leads and one deluxe joystick.

\$ 25: the lot, "Your Colour Computer", by Doug Mosher. "Help" CoCo reference, 21 American Rainbow magazines.

All of the above can be bought separately or the whole lot for \$500. If the prices are more than you can afford, then make an offer.

Ring Barry Carle on (03)-555-8969

\*\*\*

Sep '87

\$250: Double sided disk drive + disk full of games. Good condition, controller included. Price negotiable.

Ring Sean Murdoch on 047-748-291 or write to me at PO Box 5, Bringelly, 2171.

\*\*\*

Sep '87

\$450: 1 pair TEAC 40 track double-sided drives, no DOS.

Urgent sale!! Call Arthur Slade on 02-674-5620 or Viatel 262289400

\*\*\*

Sep '87

\$ 60: MC-10 20K RAM expansion.

#### Various Games for CoCo 1/2

\$ 15: Draconian, Speed Racer, Electron

\$ 12: Moonshuttle, Flying Tigers, Colourpede, Spacerace

\$ 10: Cosmic Clones

\$ 8: Miss Nibbler.

Phone Darren on 066-741944

continued  
next page

# B&T ELECTRONICS

(Formerly Bayne & Trembath)



Best prices available on all  
Tandy computers and accessories.

Free delivery to  
anywhere in Australia.  
All major credit cards welcome.

B & T Electronics  
Shop B 1451 Nepean Hwy. Rosebud 3939  
(059) 86-3134 AH (059) 85-4947

## MARTHA's Trading Post

Sep '87

\$160: DMP105 printer, in original box, + 2 extra printer ribbons.

\$150: CoCo 2 16k ECB, in original box.

\$100: Multipak interface + manual, all in original box.

Phone Trevor on 02-605-2059, or write to Trevor Kitchens,  
PO Box 78, Glenfield, 2167

\*\*\*

Oct '87

\$ 25: Musica II

\$ 70: (ono) OS-9 Pascal Compiler

\$200: (ono) DMP-100: excellent condition

\$280: (ono) Avtek mini-modem & software for CoCo III

Please write to Stephen Farrell,  
4/184 Donnelly St,  
Armidale, 2350  
or call (067) 728-082

\*\*\*

for Sale - \$150 ONO: CoCo2 B type.  
Contact John Foxon on phone 07 2087820.

## COLOUR 5 <sup>1</sup>/<sub>4</sub> DISKETTES

Available in Lavender, Dark Blue  
Light Blue, Grey, Beige, Pink, Yellow  
White, Orange, Red, Burgundy, Black  
Brown and Green.

TOP QUALITY CENTECH BRAND  
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# GOLDISOFT

P.O. BOX-1742, SOUTHPORT, QLD. 4215 Phone (075) 39-6177

Goldsoft Price List as at November, 1987

Please tick ☒ your requirements.

## HARDWARE

CoCoConnection: \$210.05 ( )  
Video Amp: With sound - \$35.00 ( )  
Without sound - \$25.00 ( )  
The Probe: \$49.95 ( )

## GOLDLINK

Access Goldlink #642# on Viatel with  
a 1200/75 baud modem. Annual subscription:  
\$44.95 ( )

## SOFTWARE

Magazines, Tapes & Disks

Australian oo (Advanced Programs for your  
CoCo):

| Magazines:            | Tape ( )               | Disk ( ) |
|-----------------------|------------------------|----------|
| 12 Months \$39.95 ( ) | 12 Months \$123.75 ( ) |          |
| 6 Months \$24.95 ( )  | 6 Months \$ 74.25 ( )  |          |
| 1 Month \$ 4.50 ( )   | 1 Month \$ 16.50 ( )   |          |

Softgold (Programs for your CoCo):

| Magazines             | Tape ( )               | Disk ( ) |
|-----------------------|------------------------|----------|
| 12 Months \$39.95 ( ) | 12 Months \$123.75 ( ) |          |
| 6 Months \$24.95 ( )  | 6 Months \$ 74.25 ( )  |          |
| 1 Month \$ 4.50 ( )   | 1 Month \$ 16.50 ( )   |          |

Gold Disk - Available Quarterly:

# 1 - \$16.00 ( )  
# 2 - \$16.00 ( )  
# 3 - \$16.00 ( )  
# 4 - \$16.00 ( )  
# 5 - Coming Soon !!!

The CoCo3 Tape/Disk:

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| #2 - Tape: \$16.00 ( ) | Disk: \$16.00 ( ) |
| #3 - Tape: \$16.00 ( ) | Disk: \$16.00 ( ) |
| #4 - Tape: \$16.00 ( ) | Disk: \$16.00 ( ) |

"Say the Wordz":

Two Curriculum based speller programs for  
your Tandy Speech/Sound pack: \$29.95  
Req: 32K + Tandy Speech Pack ( )

Best of CoCoOz - \$16.00

A selection of programs from Australian  
CoCo Magazine.

|                    | Tape: | Disk: |
|--------------------|-------|-------|
| # 1 - Education:   | ( )   | ( )   |
| # 2.1 - Games 16K: | ( )   | ( )   |
| # 2.2 - Games 32K: | ( )   | ( )   |
| # 4 - Business:    | ( )   | ( )   |
| # 5 - Adventure:   | ( )   | ( )   |
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| # 7 - Graphics:    | ( )   | ( )   |
| # 8 - Games 16K:   | ( )   | ( )   |
| # 9 - Games 32K:   | ( )   | ( )   |
| #10 - Education:   | ( )   | ( )   |
| #11 - Education:   | N/A   | ( )   |

## BRIC-A-BRAC

Blank Tapes: 12 @ \$18.00 ( )  
C-30: 1 @ \$ 2.00 ( )  
Tape cases: 12 @ \$ 5.00 ( )  
Disk DSDD: 10 @ \$20.00 ( )  
1 @ \$ 2.50 ( )

## BOOKS

Help (for your CoCo): \$ 9.95 ( )  
Mico Help (for your MC-10): \$ 9.95 ( )

## BACK ISSUES

Australian CoCo: Sep 84 - Dec 85: \$2.00 ( )  
Australian CoCo: Jan 86 - Feb 87: \$3.75 ( )  
Australian Mico: Aug 84 - Dec 85: \$2.00 ( )

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